JANUARY 18, 1941

Railway Age

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Railway Age

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Vol. 110 January 18, 1941 No. 3

In This Issue

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

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Instant Information
OF CHANGED TRACK CONDITIONS AHEAD *is Important*

10 GOOD REASONS—

—Why "Union" Continuous Cab Signals are effective in improving railway service.

1. **Increase safety of train operation.**
2. **Expedite traffic.**
3. **Signal indications are continuously visible irrespective of fog, other weather conditions, curves or physical obstructions.**
4. **Indicate instantly any changed condition on track ahead.**
5. **Permit trains to increase speed at any point where a less restrictive indication is received.**
6. **Determine location of broken rails.**
7. **Supplemented by audible indication.**
8. **Cab Signal duplicated on fireman's side.**
9. **Indications are easily read.**
10. **Effect operating economies.**

For example, a train, equipped with the "Union" Continuous Cab Signal System, had scarcely passed a "Clear" wayside signal when the cab signal changed to its most restrictive indication ("caution—slow speed"). Cautiously rounding a curve the engineman found that a switching crew had opened a switch from an industrial siding.

Can the value of such information to engine crews be calculated? And how! Indications that *instantly* advise crews of track conditions ahead, be they more or less restrictive, are reflected in more efficient, safe and economical operation.

This is but another of the good reasons why your railroad should be equipped with the "Union" Continuous Cab Signal System.

UNION SWITCH & SIGNAL COMPANY

SWISSVALE, PA.

1876

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The Week at a Glance

SUPERHIGHWAYS AGAIN: On the theory that where there is a lot of smoke there must be some fire, this superhighway business promises to be no aspirin for the railroads' headache. Bill after bill keeps dropping into the Congressional hopper—indicating that a lot of agitation is going on. In the news pages herein a still further scheme is reported, by Scranton's Representative Boland. Well, anyhow, this bill does at least expect these roads to be supported by tolls—which would indicate that the thinking was done by the legislator himself and not by the road lobby, to whom users paying for what they get is anathema.

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TRAFFIC EROSION: The unrelenting growth of highway and waterway transportation at the expense of the railroads is portrayed in ratios given in the I. C. C. annual report, which are presented in tabular form in the "traffic box" in the editorial comment pages herein. The question is raised as to how this erosion can be stopped by any method short of railroad rates which will cut under those of railroad rivals, wherever the railroads can make such rates and their rivals can't.

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ARMY TRANSPORT BOARD: The Army has appointed itself an advisory board on transportation questions with Vice-President Morse of the Pennsylvania the lone railroad man on it. There are, however, two steamship men, a warehouseman, an air transport man, and two highway transport men, plus Commissioner Rogers of the I. C. C. and a couple of army officers. One of the things the Army wants to do is to reduce delivery time of its transportation so as to reduce its "static inventories."

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"INHERENT ADVANTAGES": A little unusual, wasn't it, that the I. C. C. in its annual report to Congress should have quoted right back to Congress the "declaration of policy" it enacted in the new Transportation Act? The leading editorial herein discusses this rather striking action by the I. C. C. and suggests that the Commission was telling Congress, "You asked for it," before going to work to enforce this potentially-revolutionary declaration. For, the editorial goes on to explain, this declaration really calls for an about-face in government treatment of the railroads; an about-face which, if the authorities abide by the letter and spirit of the provision, could greatly change the transportation situation for the better. A faithful search for "inherent advantages" might make all transportation more profitable than it now is, with savings to customers at the same time.

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TROOPS BY TRUCK: The first large-scale movement of "troops as a combat unit" by motor vehicle was made by the Army in the first week in January, the War Department has announced. Arkansas was the place—and 1900 men were involved (shortest haul was 6 miles, longest 221 miles). Army trucks were used plus 56 commercial trucks and 21 buses. The movement was made as a test of what motor transport could do in a pinch, and the Army experts are now analyzing the reports to determine just how successful, or otherwise, the experiment may have been.

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"OUTSIDE" INVESTMENTS: In view of the I. C. C. insistence on the need for the enactment of the "straight-jacket bill"—to restrict "outside" railroad investments—the annual report of the government-owned Panama Railroad is apropos. That carrier roasts coffee, runs a bakery and a laundry, makes ice-cream and sausage, and operates a dairy farm and hotels, among its numerous extra-curricular activities. Are such operations noble when carried on by a government property and intrinsically sinful when a privately owned railroad engages in them?

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WORLD-WIDE WPA?: Seeing how automotive interests in this country have magnified their market by persuading taxpayers to build a vast highway system, largely at the expense of general taxpayers rather than highway-users, an ingenious Briton has hit upon a scheme by which these interests might still further line their pockets. He proposes that the American taxpayers be induced to build a system of modern highways in India and that, in return for our taxpayers' generosity, our motor manufacturing interests be given a monopoly of the Indian motor market for 25 years. Why not indeed? This proposal isn't any more screwy than scores of others which are accepted almost daily. Less screwy, in fact. After all, India needs more transportation. Enriching our motor industry by spending our taxes to enlarge India's transport plant would probably benefit our motor industry as much and do less harm to the rest of the country than spending the money to expand our surplus transport facilities.

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SENATORS' MERGER B: When railroads get ready to merge, the way to do the job is not to negotiate on a give-and-take basis, but to sit down and plan the job like a group of "economic planners" would do it; let the chips fall where they may. Such is the advice of Senator Wheeler's subcommittee in its most recent report—which hangs the Indian sign on the so-called four-system plan in the East; and raps the I. C. C. for going along with it.

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LOWER SEATRAIN RATES: The I. C. C. has set rail-ocean-rail seatrain rates on a par with break-bulk rates, Commissioner Eastman citing the new transportation act as prohibiting rates held at a higher level to protect a competitor's traffic.

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A YEAR OF NO. 39: The Santa Fe's overnight merchandise train on the 450-mile Chicago-Kansas City run has completed its first year of service with an on-time record of 97 per cent, as is related in the news pages herein. The train, originally limited to 26 cars, is now up to 50; its average over-all speed is 33.3 m.p.h., but it gets up to 65 m.p.h. on a part of its run.

NO WAR FOR SOCIALISM: During the past week Mark Sullivan, the veteran Washington correspondent, and the Wall Street Journal in an editorial have raised a question which was asked in the editorial pages of this paper on December 14—namely, who is to determine Britain's war aims: Such substantial citizens as Winston Churchill and Lord Halifax or noisy Socialists like Professor Laski and H. G. Wells. There is enough evidence around at least to arouse the suspicion that left-wingers, both in America and Britain, are trying to steal this war—diverting it from a defense of Democracy to a crusade in behalf of state socialism; and it is about time that the truth was brought to light. There are millions of Americans who wouldn't see much of a victory in unseating Hitler only to replace him by a Socialist regime; and probably there are a lot of Britons who feel the same way about it.

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LOCO. STANDING TESTS: Standing tests to determine certain aspects of locomotive performance are more economical and give more significant results than road tests. Such tests conducted by the New York Central are described and illustrated in a paper presented herein by Test Engineer Collins of the N. Y. C. These tests have given information leading to a substantial increase of boiler evaporative capacity and lowering of exhaust pressure.

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BILLS IN CONGRESS: There are some interesting bills being introduced in Congress—and reported in the news pages herein. One would require all fuel in internal combustion engines to contain an admixture of alcohol derived from agricultural products—the ratio to start at 2 per cent and work up to 10 per cent in four years. Another measure would "earmark" all federal gasoline and oil taxes for highway purposes.

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RAIL FLAW DETECTION: In detecting transverse fissures by the electric current method, it was observed at an early stage that some fissures gave a stronger indication when the rail was tested the second time, than was given at first. Consequently, in testing rails, they are now given two "injections" of current instead of one, and the detector reading is given on the second "injection." This is only one of the many and constant improvements which have been made in the technique of fissure detection in the past decade, and which are revealed in an article herein by C. W. Gennet, Jr., of the Sperry Company.

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SHIPPERS ON L.C.L.: An L.C.L. committee appointed by the Atlantic Shippers' Board reported last week with considerable enthusiasm that "the rail carriers are thoroughly aroused to at least some of the shortcomings of their L.C.L. policies and service." The shippers appear to have definite ideas of what is needed in the way of improvements to this rapidly-eroding service and are hopeful that the carriers can be induced to adopt them. The board expects a 10.5 per cent traffic increase in the first quarter, with iron and steel expected to be up 61 per cent.

RAILWAY AGE

The Commission and the Declaration of Policy

The Interstate Commerce Commission was so impressed by the new declaration of policy with respect to transportation, which Congress enacted late last summer in the Transportation Act of 1940, that it quoted this declaration to Congress in its annual report. The action of the Commission is a good deal like that of a man who gets a memorandum from his boss very largely changing his long-accustomed methods of doing business; so, just to be on the safe side, before he starts to carry out his boss' orders, he sends the boss a copy of his own orders, as much as to say: "Are you sure you meant what you said when you wrote me as you did?"

A Revolution in R. R. Regulation?

It is small wonder that the Commission is gravely impressed with this new declaration of policy because, if it makes a sincere effort to give effect to it, the result will be almost a revolution in the Commission's dealing with the railroads. The new declaration of policy has at its center the following provision: That it is the purpose of Congress "to provide for fair and impartial regulation of all modes of transportation subject to the provisions of this Act, so administered as to recognize and preserve the inherent advantages of each; to promote safe, adequate, economical, and efficient service and foster sound economic conditions in transportation and among the several carriers."

The things Congress has said in that declaration that it proposes to foster are quite contrary to the conditions which are now being fostered in transportation by existing regulatory and other policies of government—hence it is only an act of prudence for the Commission to say to Congress, "You asked for it," before proceeding to take the declaration seriously.

While, in the year ending June 30, 1940, the operating revenues of all transportation agencies reporting to the Commission, as disclosed by its recent annual report, showed an increase of four per cent over 1937, railway gross earnings increased only by less than one-half of one per cent. In the same period, the revenues of bus lines increased by more than 23 per cent and the revenues of truck lines increased by almost 29 per cent. This great disparity in the ratio at which earnings have increased on the rails and on the highways lends marked emphasis to Congress' declaration of policy. Under like treatment it is very greatly to be doubted if truck transportation possessed such "inherent advantages" as to increase its revenues by more than one-fourth, while railway revenues remained virtually stationary.

What Are "Inherent Advantages"?

What are the "inherent advantages" of the various forms of transportation, and how can these advantages be preserved for **each** form of transportation; and what changes are necessary in regulatory and other practices in order truly to preserve these "inherent advantages"? These natural or inherent advantages may be stated in general terms for each of the agencies of transportation* as follows:

Railways—the ability to provide overland transportation (given an adequate volume of traffic) at lower economic cost than any other agency can offer.

Motor vehicles—the ability to provide terminal distribution, small-quantity and short-haul transportation at costs lower than those of any other transportation agency.

Water carriers—the ability to provide bulk transportation at costs lower than those of other agencies, where water routes are provided by nature, and where such routes are not unduly circuitous.

It does not require very great discernment to recognize that the "inherent advantages" of, at least, the railroads and motor transportation are not now being scrupulously safeguarded. In almost any fair-size com-

* Note—Pipe lines are omitted from this brief statement of *inherent* advantages of the several transportation agencies, because it is not self-evident that pipe lines have any. That is to say, if oil were offered to the railroads in the dependable quantities in which it is secured by pipe lines, is it not possible that, by improvements in organization and equipment for trainload (rather than carload) handling, the railroads might at least duplicate the efficiency of the pipe lines?

Also omitted from the above summary are barge lines operating upon improved inland waterways. None of the advantages enjoyed by these agencies is natural and inherent, but solely arbitrary and artificial. If users of these waterways had to contribute to the capital and maintenance and *ad valorem* tax costs of such facilities as users of railways have to contribute to such costs, the lack of any inherent advantages by inland waterway transportation would be quite clear.

It is perhaps worth noting also that the railroads—because they combine two units, the carload and the trainload, whereas ships deal only with large quantities and trucks only with small quantities—form an intermediate agency between the other two, offering some of the advantages of each.

munity in the country, switch engines may be observed, manned by five men, pulling around no more freight than could be loaded in a good-sized tractor and trailer. Or trains will be seen, manned by five men, handling, perhaps, less than 100 tons of revenue traffic—in contrast to the several thousands of tons which a freight train needs in order to display its true "inherent advantages." At the same time, in any city in the country will be seen trucks licensed at points 500 or even 1000 or more miles away—conclusive evidence that these vehicles are being used outside the sphere of their true economic superiority.

Trucks Should Not Do R. R. Work or Vice Versa

If there were no coercive influence being exercised in the economic life of this country, such instances of uneconomic behavior would be lacking. The very fact that examples of uneconomic practices in transportation are everywhere so widespread and so evident is proof, *ipso facto,* that Congress' determination to preserve the "inherent advantages" of each agency of transportation has thus far not been given practical effect. What are the reasons for this failure? They are so numerous that only some of the more general and obvious of them can be noted here. For instance, consider the numerous cases where railroad switching crews or local train crews will be seen moving uneconomically small quantities of freight—what are the principal reasons for thus failing to realize the inherent advantages of either railroad or truck transportation?

For one thing, the train crew or switching crew on the railroad may be composed of five or even six men, when three—and maybe even two—would be sufficient. And the reason these supernumerary employees are in evidence (in violation of the inherent advantages of railroad transportation) is that government has put them there—either through specific "full crew" legislation or by legislation which makes the railroads largely powerless to resist the demands of organized labor. Or again, maybe a switch engine is observed handling pitifully small traffic because the railroad has learned that labor relations machinery established by political authority will require it to pay the switching crew whether it works or not, so the carrier had just as well give it something to do, whether there is genuine work for it to do or not.

Or again, maybe small trains will be observed doing hauling which ought to be done by trucks, because the Interstate Commerce Commission will not permit the railroad in question to substitute truck service for train service—pursuing the standard I. C. C. policy of requiring at least some rail haul for each piece of traffic which it will permit the railroads to move by truck. Or maybe the uneconomically small train will be operating on a branch line which the railroad in question wishes to abandon as uneconomic, but authority for the abandonment of which is denied by the I. C. C. on the grounds that the railroad has a public duty to perform, and that it can afford to continue this unremunerative service. The truly inherent economy of railroad transportation in large trainloads is thus burdened for the support of a service which, by inherent economy, belongs to motor transportation.

The violation of the railroads' "inherent advantages" by the movement of freight over long distances by truck is ascribable in part to the nature of the rate structure (upon which the I. C. C. has final authority—and for which, therefore, it must accept equivalent responsibility). But the use of trucks for hauls which—all costs considered—can be performed more cheaply by rail also arises from the practice of local and national governments of treating trucks differently than they treat the railroads with regard to taxation and provision of the facilities they use. Commissioner Eastman and two or three assistants of his have issued weighty volumes in which they attempt to justify the payment of highway costs in large measure by others than the users; but these gentlemen would doubtless have some difficulty in establishing that such radically varying methods of financing the two agencies of transportation can serve to promote the division of traffic between them on the basis of their comparative "inherent advantages." That is to say, whatever Mr. Eastman and his assistants may claim as justification for herding the railroads with the goats and their highway rivals with the sheep, even they can scarcely contend that such discrimination will preserve what Congress has ordained must be preserved, to wit, the "inherent advantages" of both agencies of transportation.

No form of transportation, obviously, can display its "inherent advantages" unless it has a constant supply of new capital, enabling it to utilize the technical improvements which are constantly being made available. There is no question about the capital supply for highway and waterway transportation—because, for these agencies, the supply of new capital is not dependent upon the remuneration which these agencies are able to earn for their investors. The supplies of new capital are made available by indulgent legislators quite independent of any measurable economic demand for it. With the railroads, on the other hand, new capital needed to bring into being all the "inherent advantages" of railroad transportation, is obtainable only from earnings—and from the degree of interest which investors may demonstrate in providing such capital, which interest is created only by the profitability of capital invested in railroad enterprises.

Rivals Should Have Equal Access to Capital

Last week in this space we quoted one of the oldest and most reliable agencies for investment analysis as characterizing the railroads as a "decadent industry." Investors were advised that, while putting their money in railroads during the present defense activity might prove profitable, the long-run outlook was not a bright one. Every observer knows that, as a whole, the railroads have little investment credit, except for the purchase of rolling stock. Certainly there is mighty little

in this situation to assure the public that the "inherent advantages" of railroad transportation are going to be preserved. And what is the Interstate Commerce Commission doing about this situation? Well, in its annual report to Congress, it all but boasts of the drastic nature of the reorganizations which it is forcing upon bankrupt railroads—in most instances wiping out entirely the holdings of equity capital. The I. C. C. would not, of course, be justified in permitting capitalization of reorganized companies upon a basis which might threaten further early trouble for them—but to wash out equity holders entirely, without even a hope of any compensation should the country recover from its perennial depression, is a mighty poor way of encouraging further investment of equity money in the railroads.

But that isn't the worst of it. The Commission has ordered the reorganized Chicago Great Western to set up a property investment figure on its books to represent its enormously deflated capitalization—an order which the road's reorganization committee is protesting. If this precedent should be followed with all reorganized companies, the whole rate-making basis of the railroad industry would be drastically reduced. The I. C. C. indicates that, on the basis of its present practice in reorganizations, the reorganized roads will emerge with stronger financial structures than the carriers not now in bankruptcy. That is to say, in the twelve months ended July 31, 1940, solvent roads earned their fixed charges 1.615 times—whereas, under the present practice of scaling down the debt of bankrupt companies, these latter companies would have earned their fixed charges 1.953 times in the same twelve months' period. The precedent followed in the C. G. W. case, therefore, if it is followed sufficiently to make itself felt in the rate-making value of the railroad industry, would **hit the railroads not now in bankruptcy.** Their bankruptcy, in turn, would give the I. C. C. the opportunity once again to whittle down the investment upon which the railroads are to be allowed to earn a return; and so on *ad infinitum.*

Is Present Transportation a "System"?

If investors would put their money in an industry where such a strategem for expropriation was the settled practice, they would have to be a lot dumber than they have usually shown themselves to be in the past. As a matter of fact, except for equipment and "blue chip" bonds, investors are not even now putting any money into the railroads. And that is a fact that must be overcome, somehow, or the American people can never be assured the "inherent advantages" of railroad transportation, which it is the announced policy of Congress to preserve to them.

It should not be overlooked, either, that the new declaration of policy calls for the establishment of a "national transportation *system.*" This certainly does not mean that the traffic can be taken away from a dependable year-round agency and given to one which "is here today and gone tomorrow." That is a gamble —not a system. Yet who can deny that it is the gamble rather than the dependable system which, so far, has been getting all the breaks in transportation relations with the government—in donations especially, but in taxation and regulation as well? It is no wonder that, before radically altering most of its policies in dealing with the various agencies of transportation—as this new declaration of policy requires—the Commission should have first taken the precaution to remind Congress that these are the orders it got.

Signaling for Turnouts

The use of new turnouts at interlockings, and the increased braking distances required by trains operated at higher speeds, have introduced new problems in signaling. To reduce the time lost while trains are running at reduced speed when making diverging moves in interlocking track layouts, many roads have installed longer turnouts and crossovers, with No. 20 frogs which are good for 30 to 35 m. p. h.; by using curved switch points the speed can be increased still farther. At junctions, where a curve continues from the turnout, the use of curved points and super-elevation permit diverging moves to be made at speeds up to 50 m. p. h., while at the ends of double track, equilateral turnouts with No. 20 frogs are good for 65 to 70 m. p. h., and such layouts are now in service on several roads.

Obviously, at the vast majority of locations, changes in turnouts can be made at much less expense than would be required for revisions of line to eliminate equivalent speed restrictions. On the other hand, the possible advantages of the longer turnouts are not realized unless signals are provided which will direct trains to approach and pass through the interlockings at the increased speeds for which the new track layouts are designed; therefore, many roads which have installed or are planning the installation of new turnouts are faced with the necessity for additional signal aspects.

On an interlocking home signal, a Clear aspect, Rule 281, indicates that a route is lined which is good for normal maximum permissible speed. On divisions where the maximum permissible speed is 65 to 70 m. p. h., the Clear aspect is used for diverging moves over equilateral No. 20 turnouts. Where the maximum permissible speed is more than that for which the turnouts are designed, aspects ranging between Clear and Stop should be provided.

In years past and even up to the present, many roads have used only one aspect to authorize train movements at less than normal speed through interlockings. The handicap resulting from this practice is that all such moves must be restricted to the speed for which the shortest interlocked turnout is good, and aspects cannot be displayed to permit trains to use longer turnouts at the speeds for which they were designed. To meet this need, additional aspects have been designed. The

Slow-Clear aspect, Rule 287, is used to authorize movements over turnouts good for speeds below medium. The Medium-Clear aspect, Rule 283, authorizes a movement through an interlocking at medium speed, which ordinarily is specified as half the authorized speed, not exceeding 30 m. p. h. Another aspect, Limited-Clear, Rule 281C, authorizes a movement at limited speed, which can be defined. Therefore, this aspect might logically be used to direct diverging moves over turnouts good for more than medium speed, such as 45 m. p. h., or over equilateral turnouts.

The increases in the maximum permissible speeds of trains within recent years have added to the problems. The distances and the time lost while reducing speed, and roughly while accelerating, are increased in proportion to the *square* of the difference between the previous and the new maximum speed. If a 788-ton passenger train, hauled at 85 m. p. h. by a 212-ton Diesel-electric locomotive, is slowed down to 20 m. p. h. for one train length of 1,000 ft. while passing through a turnout, and is then accelerated to 85 m. p. h., 6 min. 49 sec. is lost, as compared with running the same distance at 85 m. p. h. If this train slowed down to only 50 m. p. h. rather than to 20 m. p. h., the time lost would be reduced to 2 min. 35 sec. Thus an additional signal aspect, which directs a train to use a turnout good for 50 m. p. h. at that speed, rather than needlessly slowing it down to 20 m. p. h. saves 4 min. 14 sec. In order to save an equivalent amount of time by increasing the speed above the 85 m. p. h. normal average, a train would have to travel 107 miles at 90 m. p. h., requiring 1 hr. 11 min.

Obviously, if a train is to pass a home signal and travel through an interlocking at a certain speed, information to that effect must be given at the distant signal, so that the engineman may be governed accordingly. The Approach aspect on an ordinary three-aspect distant signal can be used properly and efficiently to mean only one thing, i. e., that the home signal is displaying the Stop aspect, and, therefore, an engineman has no choice other than to take action at the distant signal, to stop his train at the home signal. If, after arriving in view of the home signal, he sees that an aspect is displayed for a diverging route, he can then release the brakes and be governed accordingly. In the meantime, however, considerable time has been lost unnecessarily. For this reason, if enginemen are to bring their trains up to home signals and through turnouts good for medium or limited speed, this information must be given by additional aspects on the distant signals. These include the Approach-Medium, Rule 282, the Approach-Limited, Rule 281B, and the Approach-Slow, Rule 284.

In brief, many railroads have installed or soon will install high-speed turnouts at numerous locations as a means of saving train time economically, and while "jumping over this dog," they should also include the "tail," i. e., proper signaling.

Transportation Trends

The annual report of the Interstate Commerce Commission does not present an encouraging outlook for sound economical national transportation.

To illustrate, it shows the following trend in traffic and earnings of transport agencies:

Operating Revenues

	12 months ending June 30, 1940 % of 1937	Year ended December 31, 1939 % of 1937	Year ended December 31, 1938 % of 1937
Steam Railways	100.42	95.82	85.32
Water Lines	101.59	101.91	96.12
Motor Carriers of Property	128.78	120.56	95.90
Pipe Lines	87.78	85.45	91.78

Ton Miles

	Per cent of Total	
	1939	1938
Railways	61.85	63.49
Waterways	17.71	14.49
Highways	8.47	8.03
Pipe Lines	11.97	13.99

These figures show to what an alarming degree truck and water lines continue to make heavier gains than the railroads. For example, the trucks gained 32.88 points in revenue between 1937 and 1940, while the railroads gained only 15.10 points.

The railroad plant has not been reduced to conform with the decreasing share of National traffic which it is hauling and it is obvious that duplicating truck and water transportation plant is ever increasing. It is impossible to have all this excessive plant without somebody paying for it. This "somebody" does not always realize that he has been elected. He is the railroad investor, the taxpayer and, often, the shipper. But road contractors and truck manufacturers and *some* truck operators and *some* shippers are benefiting, even though only temporarily. There is very seldom a general disaster which doesn't benefit somebody; and hence even the gravest troubles have those who enjoy them.

If present conditions continue, the question is how long the "backbone of the transportation industry" can remain unbroken. Few shippers realize to what an extent *they* are paying for this ever-growing surplusage of facilities. Even fewer realize the extent to which their *future* dependable and economical transportation is being jeopardized.

The water lines insist they are entitled to make rates lower than rail rates to offset their inferior service. The truck lines are more subtle. They insist upon a rate parity at the rail level, but they do not publish such rates when there is opportunity to capture desirable traffic at lower rates. Besides, even similar rates for more complete and otherwise superior service is not true parity.

Can anything short of railroad freight rates based upon their superior economy, where it exists, reverse this trend and return lost traffic to the railroads?

Standing Locomotive Tests of the New York Central*

Investigation results in substantial increase of boiler evaporative capacity and lowering of exhaust pressure

By W. F. Collins

Engineer of Tests, New York Central

TESTS made by road or stationary dynamometer have been the means of studying the effect of changes in the design of smokebox arrangements. These tests are costly and other means have been tried in their place; namely, model tests and locomotive standing tests.

The locomotive standing tests offer one method for this study where uniformity of conditions can be maintained; the effect of minor changes can be observed, and the road performance predicted without incurring either the difficulties of procedure or the uncertainties in the results of road tests. This method of test offers simple and effective means for improving the design of smokebox arrangements and nozzles. It should be added that the standing tests are suitable not only for the study of smokebox problems but for other tests in which the performance of the boiler is involved; such as the performance of feedwater heaters, fuel, stokers, etc.

Early Locomotive Standing Tests

Early locomotive standing tests were made by the New York Central at the Gardenville, N. Y., enginehouse in 1923 by placing the locomotive in a fixed position, disconnecting the engine machinery and operating the boiler. It was recognized† that while these tests served admirably as a means for studying the effect of smokebox changes, the value of different nozzles, etc., they could not be used as a reliable indicator of actual nozzle area until considerable experience and judgment had been acquired. The reason for this statement is that the exhaust steam had a greater volume for a given exhaust pressure, owing to the high degree of superheat, which ranged from 300 to 450 deg. F. While the boiler pressure was reduced to a predetermined value equal to that of the exhaust pressure there was no reduction in temperature corresponding to the thermal heat drop in the cylinders when mechanical work is performed and transmitted to the drivers.

Some time was spent by the author in studying the results obtained by these early standing tests. The conclusion reached was that a control of the temperature was also needed if the test results obtained on these standing tests were to approximate those obtained in road service.

Recent Locomotive Standing Tests

The method for controlling the temperature of the exhaust steam during the standing test is through the medium of the spray of water mist in the cylinder which is subsequently removed in its entirety. The locomotive standing test with the exhaust temperature thus con-

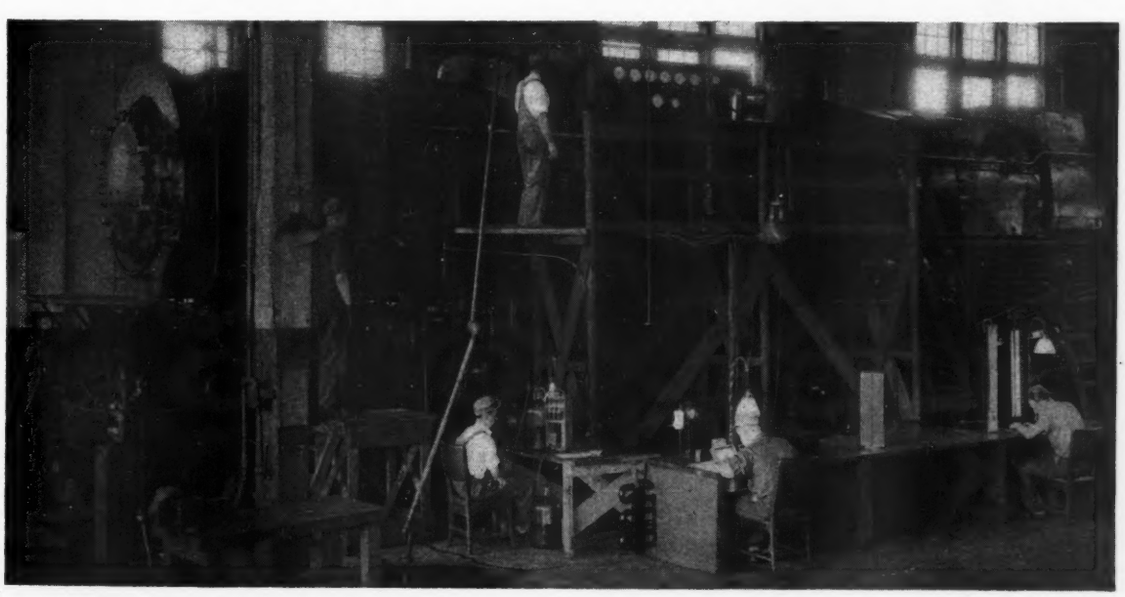


Fig. 1—Arrangement of Equipment for Standing Tests at the Selkirk, N. Y., Enginehouse of the New York Central

* Paper presented at the annual meeting of The Railway Fuel and Traveling Engineers' Association, held at Chicago.

† See "Standing Tests of Locomotives Offer Practical and Simple Means for Studying Draft Appliances," 1930 Proceedings, International Railway Fuel Association. An abstract of this paper appeared on page 1181 of the May 17, 1930 issue of the *Railway Age*.

trolled produces a more accurate and economical method for study than heretofore. The performance of the locomotive boiler is considered to be entirely independent of the engines and subject to its own particular laws. It is the boiler rather than the engines which determines and limits the capacity of the locomotive.

Fig. 1 shows the general arrangement of a New York Central locomotive on a recent standing test at the Selkirk, N. Y., enginehouse. The method of testing a stationary locomotive boiler by special means and for controlling temperature and pressure of exhaust steam to the nozzle is shown in Fig. 2.

The superheated steam, which may be designated as 100 per cent at the steam-pipe valve *17* is admitted to the valve chest *6* and from there passes through the valve bushing at the rear of the valve chest and into the cylinder where it encounters a series of sprays of water and is reduced in temperature or desuperheated. The controlled sprays add an X amount of water and the 100 per cent of steam plus this X amount, which has been flashed into steam from the water, passes from the cylinder through the valve bushing at the front end of the valve chest and into the exhaust passageways. From the exhaust passageways the steam divides, part passing through nozzle *16* and part passing through the bleed-off valve *20* where an X amount of steam is extracted or bled off in order that only 100 per cent of the steam originally furnished by the boiler will go through the exhaust nozzle (and to feedwater-heater steam pipes *14*) at the proper pressure and temperature. Fig. 3 shows the sprays *5* in the cylinders, the bleed-off valve *20,* and the steam-pipe pressure valve *17.*

A comparison was made of the results from a road dynamometer test and a recent standing test for the same New York Central Class J-1 locomotive with identical arrangements of the smokebox, firebox and nozzle. It was noted that the apparatus and method of a standing test duplicate exactly the thermal conditions that take place when steam is used during road tests, or during stationary dynamometer tests where the main pistons are used to convert the energy of the steam into work at the drivers.

Properties of the Exhaust Steam

The properties of the exhaust steam in road service show that the degree of superheat changes with the quantity of steam flowing through the nozzle and is related to the cut-off of the engines. The degree of superheat ranges from about 20 deg. F. at the steam rate of 30,000 lb. per hr. to about 90 deg. F. at a steam rate of about 80,000 lb. per hr. The exhaust pressures and temperatures used on the standing tests are obtained from the same class of locomotive selected for this purpose in road service under maximum operating conditions.

The exhaust nozzle and stack present many problems for research and with better knowledge of them it may prove possible to furnish the air for combustion at appreciably less exhaust pressure.

Results from Recent Standing Tests

The results to be presented here were obtained from tests conducted on the plant described above and, in each case, identical test conditions prevailed for each series of tests so that the results would be comparable. These results concern particularly the tests of a smokebox arrangement for a modern coal-burning steam locomotive whose pertinent boiler characteristics* will be given in the graphs showing the rate of evaporation.

The tests of the J-1 locomotive covering the *ZM* series (improved smokebox arrangement) and the *A* series

* Additional boiler data enumerated in C. A. Brandt's paper, "The Locomotive Boiler" presented before the American Society of Mechanical Engineers, on December 4, 1939, at Philadelphia, Pa. An abstract of this paper appeared in the February and March, 1940, issues of the Railway Mechanical Engineer.

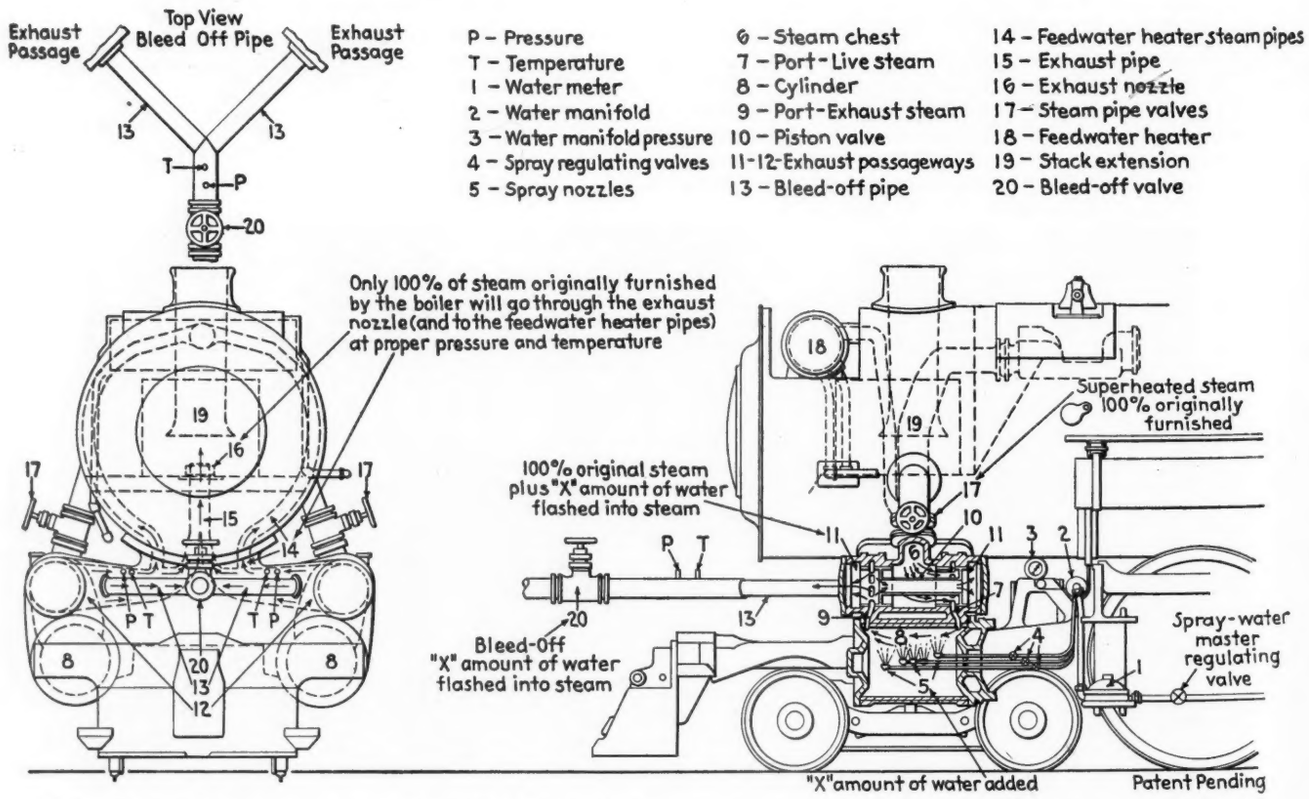


Fig. 2—Schematic Arrangement of the Method for Controlling the Temperature and Pressure of the Exhaust Steam to the Nozzle

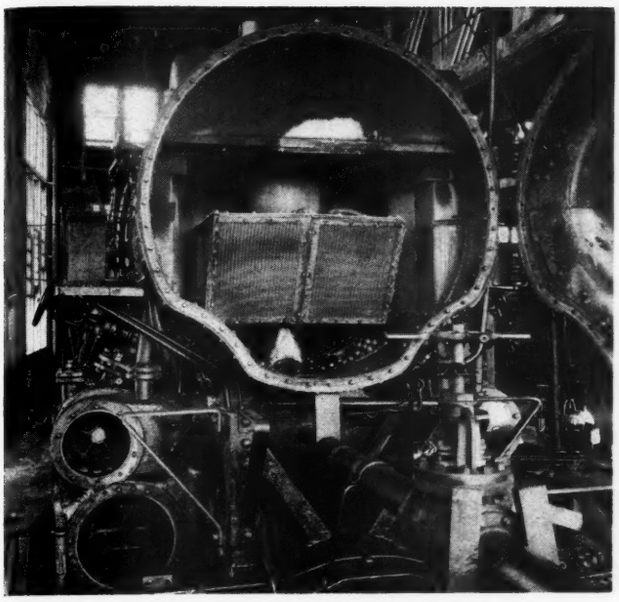


Fig. 3—The Water Sprays May Be Seen in the Cylinder—The Bleed-Off Control Valve Is in the Foreground

(standard smokebox arrangement) were conducted with the same size of exhaust nozzle (7⅜ in. diameter) and the same size and type of basket bridge. The results obtained for the two series are directly comparable. The results of the *ZM* series and those of the *B* series (standard smokebox arrangement 6¾-in. nozzle) are not directly comparable because of the difference in exhaust nozzle diameter. However, a comparison is made herein since the Class J-1 locomotives in road service have been equipped with the standard smokebox arrangement and 6¾-in. nozzle.

Some of the preliminary results of the Class J-3 locomotives will also be shown—The *JB* and *JR* test series covering nozzle tests, and a comparison of the evaporation rates of the *JR* series (improved smokebox arrangement) equipped with 7-in. divergent nozzle and the *AA* series (standard smokebox arrangement equipped with 6¾-in. nozzle. All of these series use the ½-in. basket bridge.

Stack and Stack Extension

The effect of changing the diameter of the stack was investigated (see *D* in Fig. 4) and it was found that by increasing the diameter the performance and capacity of the boiler was increased. The limit of the stack diameter is governed by the velocity of the discharge of the gases and steam from the outlet of the stack which is related directly to smoke trailing.

The contour of the stack extension was investigated and it was found that a liberal radius is desirable but increases in the length of the radius had no appreciable effect upon the performance of the boiler. It was found that the straight portion of the stack extension had a definite relation to the type and kind of nozzle used. In general, it was determined that a straight length of the stack of about 1½ diameters gave the best performance of the boiler and if less than this ratio was used the performance was found to be slightly impaired in each instance. The length of the straight section of the stack governs the total or over-all length of the stack and stack extension.

The effect of changing the diverging taper of the stack was studied to a limited extent. It was found that the usual two-inch taper per foot of length of stack was satisfactory, although a taper of only one inch per foot of length was used without any appreciable detrimental effect upon the performance of the boiler.

The performance of a stack with straight sides did not equal the performance of the tapered stack, except when special nozzles were used. With special nozzles, the straight stack did not exceed the performance of the boiler with tapered stack and circular nozzle with basket bridge for stacks of equal choke diameters.

Dimension from Table Plate to the Stack

The effect of changing the distance from the table plate to the lower edge of the stack extension (*N* plus *F* in Fig. 4) by varying the length of the stack was studied in connection with the basket bridge nozzle. It was determined that below 8 in. and above 24 in. the boiler performance was adversely affected. Between these limits the performance of the boiler was not appreciably affected but the best performance was obtained with a dimension of 16 in. The poor performance below 8 in. was due to the restriction of the stack to the gases, as reflected by the gas analysis. Above 24 in., the operation of the arrangement was unstable at the high rates of evaporation due to the impingement of the steam jet against the radius of the stack extension which evidently caused a turbulent action at this point.

A study was made of the effect of changing the distance from the exit end of the exhaust nozzle to the lower edge of the stack extension (*F* shown in Fig. 4) by varying the length of the nozzle while the distance between the table plate and the stack remained constant. This latter measurement was 16 in.

For an *F* dimension ranging from 12 to 2 in., the performance of the boiler was not appreciably affected and

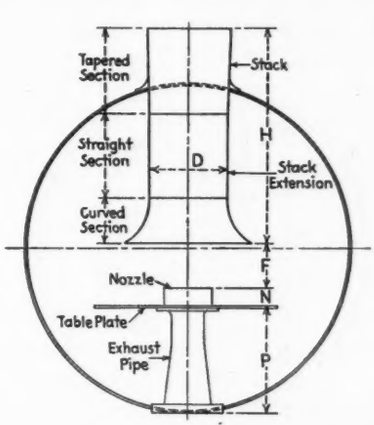


Fig. 4—Designation of Lettered Dimensions in the Front End

the best performance was found to be at 10 in. At less than 2 in. below the edge of the stack and 6 in. above the edge of the stack, where the nozzle penetrated into the stack, the boiler performance was unstable and the higher rates of evaporation could not be obtained. The steam impingement of the jet upon the stack could not be obtained with the exploring tube and evidently the jet did not contact the upper portion of the stack.

Impingement of Steam Jet Upon the Stack

The impingement of the steam jet upon the stack was investigated for stacks with diameters of 18, 19, 20, 22, 25 and 26 in. The angle of the steam jet leaving the nozzle was calculated from this data.

In general, no nozzle tested gave a single jet angle, as the jet angle changed from a minimum to a maximum

for each type of nozzle tested. The jet angle varies slightly with the rate of steam discharged through the nozzle at different exhaust pressures.

In the design of a smokebox arrangement, it is evident that the particular nozzle under consideration or test should be given special consideration in relation to the stack selected.

The basket bridge used with the circular nozzle was made from a rod ½ in. in diameter. When a ¾-in. diameter bridge was used a greater angle was obtained and a lower impingement was noted on the stack. A special-shaped ½-in. bridge was developed which resulted in a smaller angle and a higher impingement on the stack.

Exhaust Nozzle

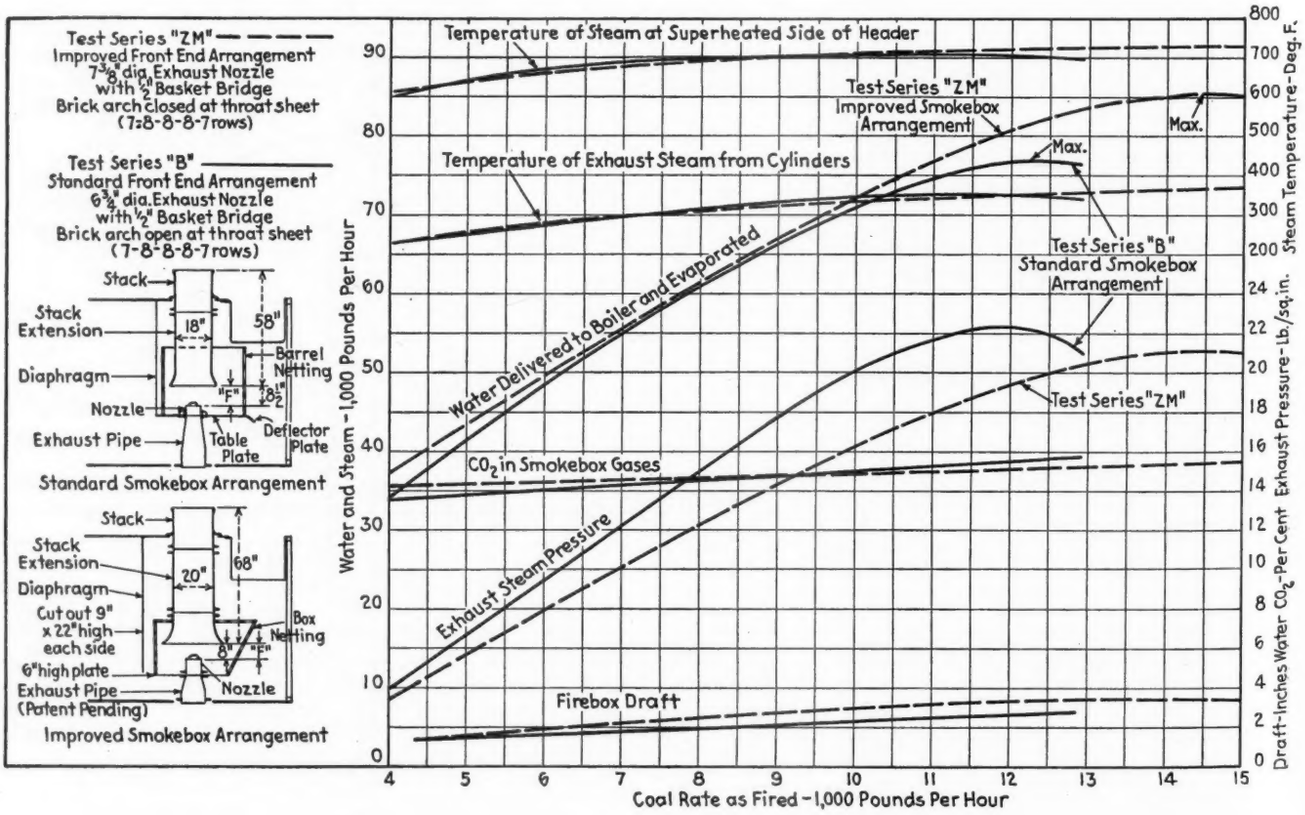
It is believed that the laws governing the operation of the locomotive exhaust nozzle are the same as apply to any steam nozzle. There is no question that the nozzle design of the steam turbine or the ejector nozzle has been highly refined as compared with the design of the steam locomotive nozzle. High exhaust pressure decreases the work done in the cylinders and, therefore, it is desirable to reduce the exhaust pressure without lowering the efficiency of the smokebox arrangement.

The circular exhaust nozzle without the basket bridge was tried but it was impossible to fill the large diameter stacks and obtain the higher rates of evaporation. Experiments made by varying the length of the nozzle indicated that a nozzle length over one diameter did not improve the performance but slightly increased the exhaust pressure and decreased the coefficient of discharge. A number of tests indicated that the single circular nozzle with the basket bridge gave results equal to those obtained with the multiple orifices, viz., pepper box, annular ported, and the star-shape nozzles. From the standpoint of mechanical simplicity, cost, and performance the circular-type nozzle was considered preferable to the other designs.

Because the steam of the locomotive cylinders is exhausted to the atmosphere below and above the critical pressure, a compromise is required in the contour of the circular nozzle. Consideration must be given in the design to the use of a convergent or divergent nozzle and whether the nozzle will be under- or over-expanding. At all pressures above 11 lb. per sq. in., the exhaust steam passes through the critical pressure and the use of the divergent nozzle is desirable. At pressures below 11 lb. per sq. in., a convergent nozzle is desirable. Below 11 lb. per sq. in., the excess air is higher; above 11 lb. per sq. in., the excess air is lower than desired. An attempt is made in this design to improve combustion conditions at the upper firing rates by selecting a divergent nozzle.

Exhaust Pressure

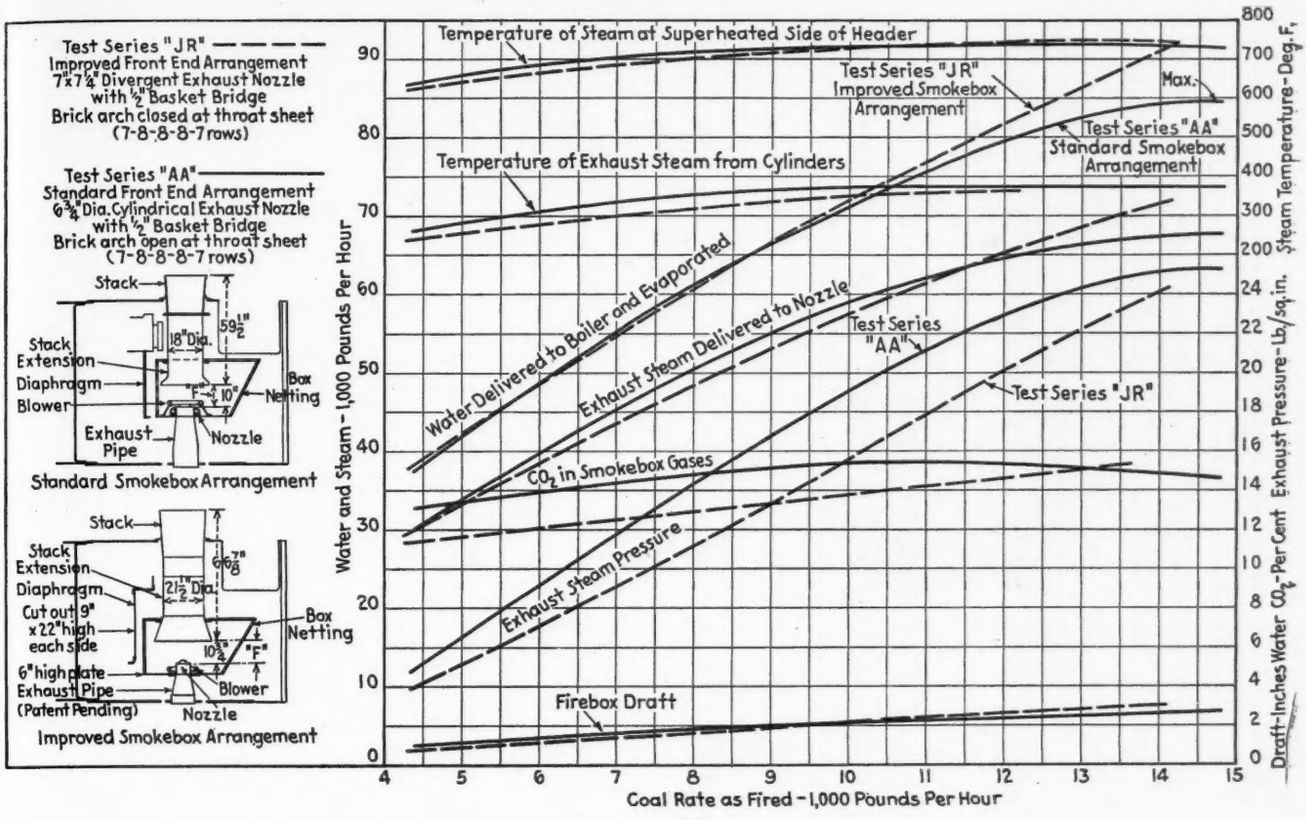
On the basis of dry air supplied, the *ZM* series is far superior to the *A* series. At exhaust pressures of 4, 8 and 12 lb. per sq. in., the improved front-end arrangement supplied 5,000, 12,000 and 11,000 lb. more dry air



Locomotive Data

Cylinders, number, diameter and stroke, in.	2-25 x 28	Heating surfaces, sq. ft.:	
Driving wheels, diameter outside tires, in.	79	Tubes and flues	4,203
Boiler steam pressure, lb. per sq. in.	225	Firebox	281
Grate area, sq. ft.	81.5	Evaporative, total	4,484
Grate free air opening, per cent	22	Superheater	1,951
Fuel	Bit. coal	Combined evap. and superheater	6,435
		Volume of firebox, cu. ft.	410

Fig. 5—Summary of Experiments With a Conventional and an Improved Smokebox Design in N. Y. C. Class J-1-B Locomotive No. 5224



Locomotive Data

Cylinders, number, diameter and stroke, in.	2-22½ x 29	Heating surfaces, sq. ft.:	
Driving wheels, diameter outside tires, in.	79	Tubes and flues	3,827
Boiler steam pressure, lb. per sq. in.	275	Firebox and comb. chamber	360
Grate area, sq. ft.	82	Evaporative, total	4,187
Grate free air opening, per cent	25	Superheater	1,745
Fuel	Bit. coal	Combined evap. and superheater	5,932
		Volume of firebox and comb. chamber, cu. ft.	505

Fig. 6—Preliminary Results of Improved and Standard Front-End Arrangements in New York Central Class J-3-A Locomotive No. 5408

per hr. than was obtainable with the standard front-end arrangement, or an increase of 10, 18.5 and 7.4 per cent, respectively.

At exhaust pressures up to about 15 lb. per sq. in., nearly 20 per cent more air was supplied during the *ZM* series, and at 20 lb. per sq. in. pressure 15 per cent more air was supplied than during the *B* series. The exhaust pressures during the *ZM* series ranged from 0.5 to 1.5 lb. per sq. in. higher than they were for the *A* series at corresponding steam rates. This increase in pressure can be attributed to the difference in efficiencies of the nozzle and exhaust pipes for the two series. The exhaust pressure during the *ZM* series with the 7⅜-in. nozzle was about 30 per cent lower than for the *B* series with the 6¾-in. nozzle and at equal rates of steam to the nozzle.

Dry Air Supplied

The dry air supplied during the *ZM* series was much greater than for the *A* series, whether based on the coal rate or the steam to the nozzle. Since the mixed smokebox gases are products of combustion, depending for the greater part on the dry air supplied, the weight of mixed smokebox gases is naturally higher for the *ZM* series than it was for the *A* series at corresponding rates. This difference in weight of gases amounts to about 7,000 lb. or 14.3 per cent at 30,000 lb. of steam to the nozzle, and 12,000 lb. or 12.3 per cent at 65,000 lb. of steam to the nozzle.

At a steam rate through the nozzle of 30,000 lb. per hr. there was hardly any difference between the *ZM* and *B* series in the weight of gases moved per pound of steam, but at rates of 45,000 and 60,000 lb. per hr. the weight of gases moved per pound of steam through the nozzle during the *ZM* series was 7.0 and 6.6 per cent, respectively, higher than for the *B* series.

The fact that a greater weight of gases was moved per pound of steam at a reduction in exhaust pressure of about 30 per cent indicates a decided advantage in favor of the improved front-end arrangement with a 7⅜-in. nozzle over the standard front end with a 6¾-in. nozzle, as operated in road service.

Heat Absorption and Combustion

The efficiencies of heat absorption and combustion,* the latter in reality being the efficiency of the furnace, were plotted in relation to the firing rate. Throughout the range in which tests were conducted during the *A* series, the *ZM* series shows a decided improvement in performance, especially at the low and high rates. The efficiency of the boiler plus the superheater was increased from 4.5 to 6.8 per cent and the efficiency of combustion was from 6.4 to 9.0 per cent higher for the *ZM* series. The capacities of the boiler and furnace were increased approximately 15 to 22 per cent, respectively. The improved front-end arrangement supplied more air at normal firing rates than was obtainable with the standard front-end arrangement and sufficient air at much higher

(*Continued on page 186*)

* This is in conformity with the theory presented by Lawford H. Fry in his book, "A Study of the Locomotive Boiler," Simmons-Boardman Publishing Company, 1924.

The Hand Test Checks With Great Accuracy Flaw Indications on the Tape Record

Continuous Research

By C. W. Gennet, Jr.
Vice-President, Sperry Rail Service

A LITTLE more than 10 years have passed since I mentioned in a paper before this Society that the two detector cars which had then been in operation for barely five months, had tested about 2,000 miles of track, and that every day was producing some example illustrating again the outstanding achievement in the detector car, by performing what, only a short time before, was considered impossible. Continuing, I said that "various changes in details are constantly being made, and as time goes on improvements in methods and operation are bound to result in the further perfecting of what is one of the great contributions to the safe operation of the railroads."

I confess a sense of some pride for making the latter rather prophetic statement, for the facts are that in the last decade, in which more than 600,000 miles of tracks have been tested by the Sperry fleet of cars, now numbering a total of 14, a great many improvements have been made bearing on the testing of rails in track, particularly in the detector cars and their operation. It seems fitting now to review some of the more outstanding of these improvements and to bring to your attention also certain of the results gathered in the testing of this large mileage.

Many Improvements in Equipment

Quite as predicted, the early operation of detector cars indicated the desirability for various improvements, and energetic experiment and research were undertaken from the outset to this end. The improvements that have resulted from this experiment and research, as might be expected with any intricate electrical device or delicate piece of machinery, have been largely the product of the laboratory where the ideas developed could be tried out "statically," so to speak, and subsequently altered or developed further to fit the exigencies prevailing in the field.

One of the difficult, if not perplexing, problems found rather frequently has been the fact that to make a real test of any improvement, it has had to be put on an actual detector car and tried out in miles of actual testing. As the detector cars have been continuously under contract for commercial testing, this requisite has complicated matters considerably, for it has generally meant that each improvement has had to be of a known fixed value when added to a car for the more practical trial in the field, so that the efficiency of the commercial testing would in no way be prejudiced or lessened. Occasionally the expensive expedient has been adopted of taking a car from commercial service and making some special arrangement for its operation in order that the proper test of the new device could be made. A long list of improvements has been the result of this concentrated study over the 10 years in question, and research is still being carried on.

Independently Mounted Detector

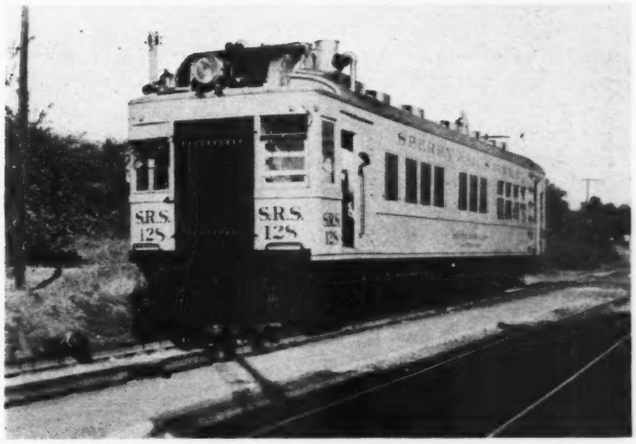
Originally, the sled, or searching unit, which carries the induction coils, was an integral part of the brush carriage frame. As such, it was in more or less rigid contact with the heads of the rails, the unevenness of which caused a variable gap between the rail and the coils. Suspended from the frame, but carried loosely in an independent mounting, the searching unit now rides the rail on small wheels which follow the minute variations in the rail surface. This insures a practically constant gap between the coils and the rail. Furthermore, with the independent mounting, false indications are greatly reduced and the testing of corrugated rail is greatly facilitated. Subsequently, multiple-coil detectors, or searching units, containing four coils, staggered in location, displaced the original two-coil detectors. Thus, a larger area of the rail head was covered and the detection of certain fissures was rendered much more certain and efficient.

From the beginning of testing, it appeared that certain transverse fissures produced indications more strongly when the rail was run over by the car a second time. In studying this phenomenon, experiments pointed plainly to the beneficial effect of giving the rail two "injections" of current instead of one. As a result, two complete circuits through the cars now energize the rail, one slightly in advance of the other, so that two magnetic fields are set up, with the detector, or searching unit, in the rear field. The effect of this additional energization of the rail was pronounced, resulting probably in the locating of 25 to 50 per cent more fissures than were found previously. Equipping the detector cars for pre-energizing the rail necessitated considerable and expensive re-design, for not only were extra brushes required on each car, but an additional generator as well.

An extremely important phase of testing consists in putting a paint mark on the rail automatically at the precise location of each defect. Necessarily, this is complicated by the forward motion of the car, and also because a small sharp paint spot is greatly to be desired. The

Has Increased the Integrity of Rail Testing*

Cars today are said to be two to three times as accurate as 10 years ago, exclusive of latest development added to locate defects beneath driver burns



The Latest Improvement in the Detector Cars Seeks Out Internal Defects Beneath Driver Burns

successful solution of this problem resulted in the assurance of making hand tests at the proper locations on the rail, as well as in reducing the time required for making these tests.

Seeks Out Defects Under Driver Burns

One of the most perplexing problems of detector car testing has been the inability of the operator to ascribe the real cause for certain indications on the record tape. This has been because various types of visible defects on the heads of the rails produced the same character of indication on the tape (and paint marks on the rail) as did internal defects, such as transverse fissures. Particularly in the case of engine-burned rails, the operator was prone to consider the indication produced on the tape and the corresponding paint mark on the rail as caused by the engine burn. Because of the prevalence of engine burns, any other interpretive practice, obviously, would have greatly reduced the daily mileage that could be tested. However, it soon became clear that burns and fissures might be so intermixed in a short length of the same rail as to be extremely embarrassing, and perhaps costly, as the following incident illustrates.

One Christmas evening, in cold, bad weather, some 12 or 15 heavily-loaded freight cars were so derailed as to block a double-track line completely for nearly 24 hr., and result in damage estimated at nearly $100,000. The cause of the derailment was due plainly to the failure of a rail containing at least two transverse fissures of considerable size. A detector car had tested the track about four months prior to the accident, and its tape record showed indications due, undoubtedly, to the fissures. But there were several other indications intermingled with these, and examination of the rail surface showed a number of corresponding engine burns. There was no reasonable doubt but that the operator, from his position in the car, had attributed all of the indications on the tape and the corresponding paint marks on the rail to the burns. Thus, while the detector car had recorded the fissures truthfully, misinterpretation of the record permitted the condition to remain which caused the unfortunate episode.

Again, however, research came to the rescue, and a newly developed detecting system, designated Type 80, has been installed recently on all detector cars. This system not only makes the above-mentioned type of error quite impossible of recurrence, but also presents other advantages of great value. In addition to the single defect-recording pen for each rail that has been in use for several years, the new system includes two additional pens. Searching units of a new, intricate and special construction, and newly designed amplifiers, actuate these pens, while a small additional auxiliary generator is also provided for each car.

One of the three present pens for each rail is insensitive to burns, ordinary flowed head metal and most shelly spots, while fissures may be indicated by either or both of the other pens. Consequently, the first, second and third pen marks have distinct and decided meanings. Under certain conditions of practice, dependent of course on which pens have been actuated, the operator is now obligated to stop his car, make a close visual examination of the rail, and frequently a hand test, of locations that would have been passed heretofore.

The adoption of this new system has proved extremely important in another direction, for it has made possible the detection of a form of progressive fracture most frequently associated with engine burns, but also, at times, with the well-known shelly spots and, occasionally, with

* A paper presented before the Western Society of Engineers, Chicago, on December 2.

the small detailed fractures called head checks, that originate at the corner of the rail head. Such defects, regarded previously as of a more or less superficial character, have recently been found through testing with the new type equipment frequently to show progressive growth in a transverse plane, making them quite as dangerous as compound fissures, if not actual transverse fissures. Thus, in short, the field of action and the potential benefits to be obtained through the use of the new Type-80 system appear to be great.

Other improvements in the detector equipment that are of perhaps less interest, but nevertheless of an important character, have also increased the integrity of rail testing. For example, it developed early in testing that to insure the best results, the heavier rail sections required more energizing current than the lighter sections. Therefore, larger generators were put into use and a low-current pen was added to the record tape. This pen enables the operator to know when a length of rail, because of the presence of some oxide or grease, or even dead weeds on its head, has failed to become sufficiently energized to insure satisfactory testing. When such a condition is observed, a re-run is made over the distance in question. Calibrating instruments have been provided also. These are switched into the circuits several times each day, and give accurate information concerning various electrical conditions that might have an adverse influence on testing operations. Occasionally, cars have been tied up because of their failure to pass these prescribed calibrating tests satisfactorily.

Improvements Have Marked Effect on Testing

One may well ask to what extent these improvements reflect the number of transverse fissures and other rail defects detected. Unfortunately, this is a difficult question to answer definitely because, as is so frequently the case with problems involving rails, the influence of a large number of variables greatly complicates the results. Probably the major factors in the development and growth of fissures are the character of the steel, the tonnage carried by the rails, the speed at which this tonnage is moved, and the wheel loads. Other factors are, of course, the age of the rails and, to some extent possibly, the general condition of track maintenance. Obviously, these factors may vary widely over a period of time so that if, as has been so frequently the case, detector car tests are made over a line only about once a year, some corresponding differences in the results of tests can be expected. Weighing some individual results too closely, therefore, would be dangerous, even though the detector car equipment was exactly the same for each test.

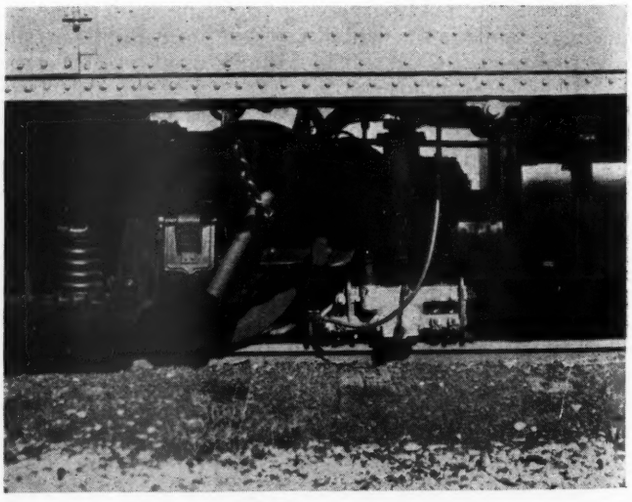
Doubtless, the effect of many of these varying factors are much less pronounced when the records of testing of thousands of miles of track on a large number of railroads are taken into account. Such records, which have been gathered in the large-scale commercial testing that has been done, show certain indications that are so strong as to warrant plausible deductions. Thus, using round figures, a fissured rail was found in every 12 miles tested in 1930. In 1935, following the addition of multiple-coil sleds and pre-energizing, the rate increased to one in every 5.5 miles, while in 1939 it became one in every four miles.

For the reasons already mentioned, I do not say that these greatly increased fissure rates are due entirely to improvements in the detecting equipment. Other conditions certainly entered in. For instance, the cars are heavier than formerly and their general upkeep is on a higher plane; also, the operating personnel and the constant supervision of both equipment and personnel have been enhanced greatly by the added years of experience, and the figures given necessarily reflect these conditions. From our own sources of information, it can be said safely that, overlooking entirely any improved results produced directly by the new Type-80 equipment, our detector cars today are from two to three times as accurate and efficient in the detection of fissures as they were 10 years ago. Through the addition of the Type-80 equipment, a still more favorable change in the picture may be anticipated.

Rail Steel an Important Factor

In addition to the factors already mentioned that may influence the development or growth of fissures, another should be mentioned, which, perhaps, is best described as the character of the rail steel. Unquestionably, some rails are much more susceptible to the development of fissures than others, and while I am not prepared to discuss the reasons for this in this paper, it can be said that rails laid in certain stretches of track, due entirely to some condition of the steel, evidently may be so infested with fissures, or possibly free from them, as to produce the most abnormal testing results.

Perhaps one of the best illustrations of the effect of rail steel on fissure development is seen in a certain stretch of about 25 miles of track which was laid almost entirely with the rails of one rolling of a certain mill. The rail in this stretch was first tested in 1931 when it was about four years old and had carried approximately 23,000,000 tons of traffic. At the time of the first test, 14 fissured rails were found, scattered through 10 different heats. Since then the track has been tested as often as a detector car was nearby, with the result that it has been tested 29 times in nine years. Altogether in these tests, 669 fissured rails were found, which is an average of about 23 for each test. At the time of the last test, made only a few weeks ago, 12 additional fissured rails were located, which apparently had required about 71,000,000 tons of traffic to develop the fissures, and four of these rails were in two heats that had never before shown any fissures. From these facts it will be evident that while some of the heats and their rails required comparatively little traffic to develop fissures, others and their rails required more than three times as much.



The Forward Brushes, Which Send the Pre-energizing Current Through the Rail

An interesting commentary on the vagaries of the fissure problem is presented in the accompanying table. This gives the average of the number of fissured rails

found in the annual testing at about 12-month intervals in 1937, 1938 and 1939 on 22 different railroads in the United States and Canada, as well as the average traffic density for each road in the three years. In preparing the table, an effort was made to include only those roads that had practically the same track tested each year. Also, the detector car equipment used was practically the same each time. The results, therefore, are what might be termed the normal fissure ratings for the roads in question. Since all of our testing for the three years in question has resulted in finding a fissured rail every 4.1 miles, it can be seen clearly from the table that fissures are much more prevalent on some roads than on others. Furthermore, the results show that the direct influence of the volume of traffic is clouded considerably by some of the other factors referred to. For example, it is well known that the results on road "A" in the table were affected adversely by a lot of rail particularly prone to fissures.

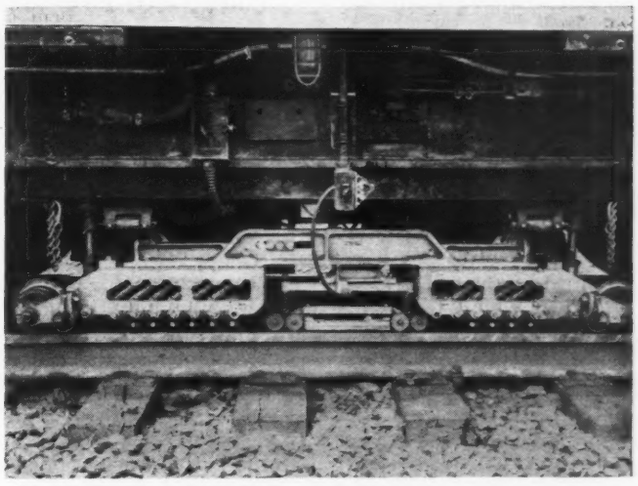
Fissures Only 40 Per Cent of Defects Found

At the outset of detector car testing, interest was, of course, focused on the detection of transverse fissures, and what the performance might be with respect to locating other types of rail defects, such as split heads, was somewhat problematical. Rails containing vertical splits in the head have been a source of annoyance to railroad men for many years, antedating, in fact, the fissure problem, and many disastrous derailments have been due to such defects despite the vigilance of trackmen. In more recent years, splits in a horizontal plane that frequently have developed an augular or vertical component have become common. Fortunately, it is no longer necessary to rely entirely upon the visual inspection of trackman for the detection of these defects, because the detector cars have been found to possess the ability to locate large numbers of them. Thus, the record shows that for the last five years, 40 per cent of all defective rails detected contained vertical split heads, 15 per cent contained horizontal split heads, and 5 per cent other miscellaneous defects, while the remaining 40 per cent contained transverse and compound fissures. These are somewhat surprising figures and, from the standpoint of rail steel, indicate the need for continued improvement, because it is still a question as to whether controlled-cooling or Brunerizing of the rail will reduce these defects, representing 60 per cent of the total, in addition to affording relief from fissures.

Normal Fissure Ratings of 22 Railways, Obtained From Records of Annual Tests for Three Years

Road	Traffic Density	Miles Tested	No. Miles Per TF&CF Rail	No. TF&CF Rails Per 100 Track Miles
A	1,013,000	814	1.47	68.02
B	3,087,000	1,421	2.14	46.55
C	2,135,000	250	2.21	45.12
D	3,025,000	682	2.38	41.89
E	5,932,000	2,512	2.69	37.05
F	732,000	2,884	2.81	35.49
G	2,373,000	2,811	3.90	25.58
H	493,000	816	3.97	25.17
I	3,220,000	227	3.98	25.11
J	643,000	478	4.17	23.93
K	1,887,000	2,429	5.13	19.45
L	1,416,000	552	7.01	14.25
M	1,345,000	894	7.90	12.64
N	665,000	1,243	8.12	12.31
O	1,391,000	579	8.23	12.14
P	845,000	2,924	8.55	11.68
Q	1,227,000	785	8.82	11.33
R	1,301,000	1,004	9.94	10.05
S	1,650,000	1,367	10.20	9.80
T	868,000	578	10.26	9.74
U	5,849,000	715	11.72	8.52
V	831,000	3,976	12.52	7.98

How fast fissures grow, or, in other words, how often the track should be tested, are questions that are difficult to answer. So many variables enter into the problem, as already mentioned, that a reliable answer or formula appears a long way off. Experiments have been made to develop data on the rate of growth of fissures, but these generally require the use of angle bars on the fissured rail, or some other protective measure likely to influence the rate of growth. One case of a fissure, so small that it could not be identified definitely, growing over night with the passing of several heavily-loaded freight trains to one of more than 5 per cent, is on record. Other cases show up occasionally where a hand test failed to prove the presence of a fissure but where one actually appeared months or maybe a year after. And still other cases of very sudden growth, as shown by examination of the fractures themselves, are known.



The Latest Detector Unit, or Sled, Consists of Multiple-Searching Coils Which Ride the Rail on Small Wheels

Among the many roads that have established the practice of testing their principal tracks once each year, a road may go for two or three months following testing without a single fissure being found in service by its trackmen. Probably, there will then be some increase in the number of service failures month by month, perhaps to such an extent as to dictate plainly the advisability of testing more frequently than at twelve-month intervals. It has happened occasionally that this monthly increase in service failures between tests coincides with the increased number of broken rails experienced by certain roads because of the well-known adverse effect of cold and freezing weather on the road-bed. This has created a rather general desire for late summer and fall testing, making it extremely difficult and expensive to furnish sufficient detector cars to meet this peak demand.

In lieu of any common rule or standard, each road can undoubtedly best determine for itself how often its tracks should be tested. The character of its rails, its traffic conditions and track maintenance, as already pointed out, are of great moment in the development and growth of fissures, and after the road has been tested a few times, various well-kept statistics will dictate the testing practice best suited for its particular conditions. Perhaps for illustration, the number of service failures between tests will indicate that testing once each year is ample. On the other hand, failures may occur so rapidly as to justify much more frequent testing.

It has often been said that transverse fissures occur in rails of all kinds of steel laid under all kinds of conditions. There appears to be practically no immunity from them,

and the occurrence of another crop following the most careful testing is inevitable. Even a few defects very similar in some respects to real fissures have been located in the comparatively recent controlled-cooled and Brunerized rail, although it should be emphasized that these cases may reflect some of the pioneering necessarily attached to these indisputable improvements in rail manufacture.

The prevalence of fissured rails has been a source of great expense to the railroads, to say nothing of the constant anxiety caused by the fear that one of these insidious defects will break out under a train. This concern is aggravated by the fact that 15 per cent of all of the fissured rails found are known definitely to contain more than one actual fissure, frequently from 12 to 50 or more, and the writer knows of one rail that contained 135 in its 39-ft. length. Naturally, the presence of more than one fissure in a rail increases the hazard considerably, for obviously it is possible for the blow of a locomotive driving wheel to break out a short section of rail between two fissures, thus more easily causing a derailment than if the rail fractured in only one place.

Unfortunately, it is difficult to measure the actual value of detector-car testing by any real yardstick. It is an outstanding fact, however, that during the years of operation of our cars, a total of nearly 500 miles of rails containing transverse and compound fissures have been detected and removed from track, while somewhat more than 600 miles of otherwise defective rails have also been located by detector cars. Entirely aside from the savings or economies that may have been effected by testing in prolonging the life of certain rails in track, and there have been many, there can be no challenge to the statement that detector-car testing is one of the most outstanding contributions that have been made to safe rail transportation.

Standing Locomotive Tests of The New York Central

(*Continued from page 181*)

firing rates which accounts for its superiority over that design.

The results of the *ZM* series show an improvement over those of the *B* series. The efficiency of the boiler plus the superheater was increased from 0.8 to 4.1 per cent and the efficiency of combustion for the *ZM* series was from 2.1 to 6.8 per cent higher than for the *B* series. The capacities of the boiler and furnace were increased about 12 to 14 per cent, respectively. These improvements in performance by the use of the improved front-end arrangement were obtained with a reduction in exhaust pressure of from 20 to 30 per cent at equal rates of steam to the nozzle. In road service, this reduction in exhaust pressure should result in increased engine horsepower output and with the increased combustion efficiency should result in a higher thermal efficiency of the locomotive.

The efficiency of combustion for the *ZM* series is higher than that for the *A* series while the efficiency of heat absorption is from 2 to 2½ per cent lower. Off hand, it might be assumed that the heat absorbed by the boiler during the *ZM* series was less than that absorbed during the *A* series, but this is not true. The reason for the efficiency of heat absorption in per cent being lower for the *ZM* series than for the *A* series is that more air was supplied per pound of coal in the *ZM* series than in the *A* series, resulting in a greater proportion of the coal fired being burned. This increased the efficiency of combustion, which is the ratio of the heat produced in the firebox to that available in the coal fired, but the heat absorbed by the boiler does not increase in as great a proportion as the heat produced in the firebox on account of the increase in the heat lost in the flue gas. Consequently, while more heat per pound of coal is absorbed by the boiler during the *ZM* series than during the *A* series, the ratio of heat absorbed to the heat produced, or efficiency of heat absorption, becomes less for the *ZM* series.

Rates of Evaporation

The summary of experiments with a conventional and an improved smokebox design is shown by the graphical representation of the test results in Fig. 5. The actual rate of evaporation is shown in relation to the rate of fuel fired for the New York Central's J-1-b locomotive.

Sketches of the smokebox arrangements have been superimposed on these graphs as a matter of information. It will be noted that an appreciable increase in the evaporative capacity of the boiler has been obtained with a decrease in the exhaust pressure and both have been obtained principally by a change in the design of the smokebox arrangement.

Some increase in performance is due to a closed arch arrangement instead of an open arch arrangement using the bricks at the throat sheet.

The maximum firing rate is considered as the rate at which maximum evaporation has been or can be reached. It is possible to increase the firing rate beyond this point, but the increasing heat losses due to unburned fuel and incomplete combustion offset the heat required to evaporate the additional water. This point is indicated on the graph by an arrow.

Preliminary results of the J-3 locomotive tests are shown graphically in Fig. 6. The actual rate of evaporation is shown in relation to the rate of fuel fired. It will be noted therein that the maximum rate of evaporation, as defined above, has not been reached for the *JR* series with the improved smokebox arrangement and divergent nozzle. An appreciable increase in evaporation at the upper firing rates has been obtained with a decrease in exhaust pressure. Both have been obtained by a change in the design of the smokebox arrangement.

Conclusions

The designs presented in Figs. 5 and 6 show a smokebox arrangement whereby the stack has been lengthened and the resistance to the flow of gases has not been increased. The table plate has been lowered 10 in. and the diaphragm has been cut away at the sides adjacent to the smokebox shell an amount equal to the area taken away by lowering the table plate. These cut-outs are not very large and, therefore, the remaining portion of the diaphragm will be sufficiently large in area to function as an impinging surface for the cinders instead of having them strike directly on the netting of the box-type spark arrester.

The cut-outs in the diaphragm also shorten the path of the gases coming from the flues above the bottom of the diaphragm by permitting the gases to pass directly to the stack with two right-angle turns, or 180 deg., instead of five right-angle turns, or 450 deg., as in the usual tortuous route of the conventional design. This particular design represents an increase in efficiency resulting from the improvement in the design of the smokebox arrangement by systematic experimentation with mathematical calculations and theoretical principles entering where they may be useful.

NEWS

Traffic Solicitors for Parcel Post

Postoffice department reveals sales methods comparable to those of other carriers

Making his annual report on the Post Office Department for the year ended June 30, 1940, Postmaster General Frank C. Walker this week revealed that at the close of that fiscal period mails were carried under authorizations of the Department by 302 companies over 181,500 miles of railroad. The cost of maintaining the railway mail service was up $2,279,247 as compared with fiscal 1939, the total for fiscal 1940 being $108,555,257 of which $100,898,394 was for mail transportation by railroads.

At the close of the fiscal year under review there were 682 full postal cars and 3,216 apartment mail cars owned by the railways and operated for the postal service. The 1939-1940 mileage of the regularly authorized space units of the several sizes was 455,836,402. Meanwhile, as the Postmaster General put it, "the domestic air mail system continued a steady and sound program of improvement and extension . . . keeping pace with the importance of civil aviation development to the general welfare of the country." At the close of fiscal 1940 there were in operation 37,943 miles of domestic air mail routes over which the mileages flown were 13.72 per cent in excess of those for fiscal 1939.

The report's section of the "Division of Parcel Post" tells of plans to pursue further the "general campaign for greater use of parcel post facilities." This program evidently contemplates continued active solicitation of parcel post business by contact men who function in much the same fashion as do traffic solicitors of privately-owned carriers. "At the larger offices where the bulk of parcel post originates," the report says, "there has been a continuance of the policy of designating a supervisor of parcel post who is required to study the service from his own standpoint and through personal contact with mailers to endeavor to maintain cordial relations and procure new business. This designee has acted as shipping counselor, has entertained and adjusted complaints, has invited suggestions and worked generally toward improving the efficiency and increasing the business in his own field. This policy has not only increased the knowledge of the usefulness of the service among the patrons but has developed new business and has definitely extended the spirit of good will among mail users and potential users."

At the same time the parcel post service has been publicized through "such avenues of publicity as were compatible with the traditions of the Department." Among them is the telephone directory, the report noting that "through the cooperation of distributors of telephone directories a free page of postal information has been provided in the classified section of about 400 cities, large and small." Reports from postmasters disclose that these promotional activities "have been generally profitable and are worthy of continuance for parcel post has not only shown an increase in the sack volume handled during the year but there has been a dimunition in complaints against the service."

A. A. R. Sends a Safety Valentine for February

The February poster of the Association of American Railroads' "All The Year—Every Year Safety Program" is a large valentine on which is inscribed "I'll help you—You help me—1941." The head caption of the poster announces that this promise is the "best valentine" of all.

State Commission to Investigate N. Y. C. Passenger Service

The New York State Public Service Commission on January 9 ordered a "sweeping investigation" into intrastate passenger service of the New York Central. Public hearings will start at the New York office of the commission on January 23. Alleged deficiencies of service about which complaints have been made to the Commission are failure of the road to maintain its coaches in sanitary condition; practice of using sleeping cars for day-time travel and failure to furnish parlor cars therefor and failure to maintain published schedules.

Eastman Will Handle Case Involving Protective-Service Contracts

The Interstate Commerce Commission has assigned its Ex Parte No. 137 Proceeding involving contracts for protective service against heat and cold to Chairman Eastman for administrative handling with respect to all matters save the taking of testimony at public hearings. The same order designates Mr. Eastman as an additional member of Division 3 for the consideration and disposition of that proceeding.

As noted in the *Railway Age* of November 2, 1940, page 654, this Ex Parte No. 137 case was instituted by the commission after the Transportation Act of 1940 had given it regulatory authority over the protective-service contracts.

A. A. R. Men Talk On Car Supply

Buford fits defense load into traffic picture before Mid-West Shippers Board

Ample cars to handle defense and normal business were assured by representatives of the Association of American Railroads at the annual meeting of the Mid-West Shippers Advisory Board at Chicago on January 7. The Board went on record as opposed to the government's plan to develop hydro-electric power on the St. Lawrence river. Officers of the Board were re-elected for the ensuing year.

C. H. Buford, vice-president, Operations and Maintenance department of the A. A. R., speaking at a luncheon sponsored by the Board and the Public Affairs committee of the Traffic Club of Chicago, said that most of the estimates made to date indicate that the national defense load is relatively small compared with the normal volume of commercial traffic. "Generous estimates," he continued, "have placed it at various points between 4 and 12 per cent of yearly commercial car-loadings. But the volume, whatever it may be, is not so important as the fact that this volume must be spread over relatively long periods of time; it is not a seasonal peak-load packed into six weeks in the fall of the year.

"All of these studies and estimates are necessary and helpful, but after we have added up and evaluated all the cars and locomotives and miles of track in the country in an honest effort to prove the capacity of these railroads of ours, we do not have the answers. We do not have it because there are some factors that cannot be measured, and we do not know the exact loading pattern. We know that the low weeks of carloadings generally come early in the year. Then there is a gradual increase to a peak of about six weeks in September and October. The average loading for the 46 low weeks is about 80 per cent of the average loading for the six peak weeks. This constitutes what might be called the yearly commercial carloading pattern. We now have an emergency load of traffic to consider that will provide all-year, continuous loading. It will fit in with the usual pattern of commercial traffic to provide a more complete year-round utilization of equipment.

"The following figures will give you some idea of what the railroads are doing to keep the plant ahead of traffic demands: In October, 1939, we handled an unpre-

(*Continued on page 196*)

Merger Moves Get Senatorial Frown

"Economic planning", not give-and-take negotiations, is senators' idea

Senator Wheeler's subcommittee which has been investigating railroad financial practices during the past several years, has some rather caustic remarks to make regarding the Interstate Commerce Commission's handling of the four-party consolidation plan in the eastern region. This specific criticism of the commission is found in a summary at the end of volume five of the subcommittee's study of "Railroad Combination in the Eastern Region," which was made public this week.

"Looking back on the commission's 1932 plan," declares the opening statement of the summary, "it is apparent that the commission's action was not so much the declaration of a plan of its own as the ratification, with some changes, of a private agreement among the four most powerful eastern systems. Nor was this private agreement in any true sense a 'plan'; it was merely the outcome of the trading and bargaining which has been described in this report. At no point did the executives approach the problem as a piece of public planning, or endeavor to measure the needs of communities or shippers for particular routes or combinations. Their thought processes were those of the Vanderbilts, Cassatt, Gould, and Morgan 30 years earlier. An empire was to be divided; negotiating skill and financial resources were the instruments of survey.

"Furthermore, the commission plan was in large part a ratification of acquisitions which had already been carried out either in open disregard of the commission or by devices intended to shelter the transactions from the commission's jurisdiction. The Pennsylvania had increased its Norfolk & Western holdings despite the commission's suggestion in its 1921 plan that the Norfolk & Western should be a separate system. The Van Sweringens had assembled their roads from the outset without regard for the 1921 plan. That plan, of course, had been labeled 'tentative,' but the later decisions and plans of the commission were treated with equal disregard. The Van Sweringens bought the Chicago & Eastern Illinois less than a month after the commission's 'final' plan of 1929 was announced; both the Pennsylvania and the brothers ignored the commission's mandate that the various systems should be independent of each other, and invaded New England and the southwest, respectively."

"The whole process," continues the summary, "was characterized by financial shortsightedness and sharp practice. The Wabash and Delaware & Hudson scrapped basic principles of accounting and resorted to concealment in their buying activities. The Van Sweringens, disguised as one corporation or another, developed a multiple business personality to avoid the effect of the commission's decisions which did not please them and to obtain money from the public. Through the Pennsylvania Company and the Pennroad Corporation, the Pennsylvania management played fast and loose with the commission, and enticed investors into an absurd proposition.

"But," concludes the statement of the subcommittee, "all this was officially forgiven. The penalty was not to be any punitive action by the commission, but the natural result of such financial inebriety. The speculative era ran its course, and the railroads were left with staggering losses, the investors with defaulted bonds and worthless stock. The net result of the 'scramble' was the discrediting of the railroad managements, complaints against the commission, exacerbation of hard times, and the nullification of the consolidation program which had furnished the excuse."

Freight Claim Division to Meet June 10-12 at Denver

The annual meeting of the Freight Claim division of the Association of American Railroads will be held at Denver, Colo., on June 10-12.

Western Railway Club

The Western Railway Club, Chicago, will present a public relations program on Monday evening, January 20, with Phil Hanna, editor of the Chicago Journal of Commerce, speaking on "What's Ahead for Business."

Cleveland Traffic Club to Hold Dinner Meeting February 6

The Traffic Club of Cleveland will hold its annual dinner at the Hotel Cleveland on February 6. Brooks Emeny, director of the Foreign Affairs Council, will speak on American Defense and Foreign Policy.

New Japanese Representatives at New York

The Japanese Government Railways announced the appointment of Hirohiko Tenbo and Seishi Ohtsuka as resident representatives at its New York office, succeeding Y. Tasaka and T. Shiroki, respectively.

Order on Northwest Oil Rates Postponed to May 1

The Interstate Commerce Commission has further postponed from January 1 until May 1 the effective date of its order in the I. & S. No. 4614 proceeding wherein it dealt with the principal interstate rail and truck rates on petroleum and its products in the Mountain-Pacific Northwest. The commission's decision in this case, which the railroads have taken to the courts, was reviewed in the *Railway Age* of October 7, 1939, page 533.

Tariffs Suspended

The Interstate Commerce Commission has suspended from January 15 until August 15, the operation of tariffs proposing to cancel the participation of the Chesapeake Steamship Company of Baltimore, Md., Chile Steamship Company, Inc., Eastern Steamship Lines, Inc., Newark Terminal & Transportation Co., Ocean Steamship Company of Savannah, Ga., and Philadelphia & Norfolk Steamship Co., in the eastbound and westbound trans-continental tariffs.

Atlantic Board Considers L.c.l.

Shippers have got carriers interested in "r. r. orphan"; seaway plan rapped

The Atlantic States Shippers Advisory Board paid special attention to problems of car supply for the demands of national defense, the proposed St. Lawrence Seaway as an alleged "defense" measure and freight loss and damage prevention at its 17th annual and 54th regular meeting in New York on January 8 and 9. The chief feature of the meeting was a luncheon on the second day—attended by some 27 railroad presidents invited as guests of honor—during which Judge R. V. Fletcher, general counsel, Association of American Railroads, discussed "Facts about the Proposed St. Lawrence Waterway," which were summarized in last week's *Railway Age*, page 144.

An innovation in connection with the meeting was a "round table forum" over the network of the Mutual Broadcasting Company on the afternoon of January 9 on problems facing shippers and carriers in the national defense program. Judge Fletcher, Clarence Francis, president, General Foods Corporation, and Edward F. Lacey, executive secretary, National Industrial Traffic League, participated. Special emphasis was laid upon the relation of transportation to the supply of food—inasmuch as it was felt that housewives would make up the bulk of those listening to the program. In his summary phrase Judge Fletcher declared, "After all, the best help is self help. The responsibility rests upon all of us. The wheels are rolling. America is forging ahead."

The report of the Commodity committee forecast a 10.5 per cent increase in carloadings for the first quarter of the year over the same period of 1941. All commodity shipments for this period show expected increases with the exception of fresh fruits, which is expected to drop about 10 per cent. The heaviest increase is a 61 per cent rise in iron and steel shipments. Gravel, sand and stone is expected to go up 37 per cent and automobile shipments, 40 per cent. The committee calls attention to the fact that its carloadings forecast a year ago was 99.8 per cent correct.

The Less-Carload Transportation committee, appointed last year "after long and persistent efforts had been made to pursuade the board to recognize that the great mass of less-carload shippers and receivers of freight were not orphans of the storm," made a special report through its chairman, Ralph C. Huntington, secretary of Casey Jones, Inc. The committee declared that shippers and receivers of less-carload traffic had realized that the railroad carriers were fast losing their position in this field; that with the exception of a few individual railroads, no effort was made to meet competition. "It is therefore, with a great deal of satisfaction that we can now report that through the hearty cooperation of R. W. Brown, chairman of

(*Continued on page 195*)

New Superhighway Plan by Boland

Would have a federal company build roads on bonds secured by tolls

Novel ideas in superhighway promotion are embodied in H. R. 1829 introduced on January 10 by Representative Boland, Democrat of Pennsylvania, to provide for the subscription by the Reconstruction Finance Corporation of the stock of the "Federal Highways Corporation" which would be created "to finance self-liquidating express highways." To let the bill's title tell it, the new highways will "create additional facilities for national defense, relieve highway traffic congestion in intermetropolitan regions, aid air navigation, aid the states, municipalities, and other public authorities thereof, furnish employment for citizens now on relief, decrease unemployment, stimulate business recovery, and promote public safety . . ."

Among the bill's novel features is a provision which, on any date subsequent to five years after enactment, would authorize any holder of $1,000 or more of Federal Highway Corporation's bonds "to compel, by mandamus, tolls to be levied which will produce income sufficient for operation, administration, policing, maintenance, and the payment of interest and principal as the principal may mature . . ." However, "the sworn statement from the majority of the Board of Managers of the Corporation that in their opinion such increase in tolls would result in reduced instead of increased revenues, shall be complete defense to such a suit." Meanwhile, the Corporation to the extent that it imposes rules and regulations on motor vehicles and collects tolls would be deemed to be "a common carrier by highway;" it would be required to file tariffs and submit to Interstate Commerce Commission regulation, but "it shall not engage in the business of a contract or common carrier by motor vehicle for hire."

The Corporation would have capital stock of $25,000,000, and R. F. C. would be authorized, and with the approval of the President, "directed" to subscribe to such stock. Also, the Highway Corporation would be authorized to issue revenue bonds or debentures in an aggregate amount not to exceed $500,000,000. The aforementioned Board of Managers would consist of three members, appointed by the President with the advice and consent of the Senate and receiving salaries of $10,000 a year. The Corporation's general assignment would be "to prepare plans and specifications and estimates of cost, traffic and revenue for a system of express highways, airplane fields or other facilities related thereto, to be constructed by or under the direction of the Corporation and comprising main trunk highways between metropolitan regions, bypass highways around areas of traffic congestion, together with connecting highways which will open new routes, including such bridges, causeways, tunnels, airplane fields, or other highway and travel service facilities related thereto as may be necessary and appropriate for carrying out the purposes of this Act."

In determining the area in which its highways will be located, the Corporation is directed to give "due consideration" to recommendations contained in the Public Roads Administration's June 8, 1938, report to Congress, entitled "Toll Roads and Fee Roads." Among its condemnation powers the Corporation would find authority to go in for excess condemnation and take over tracts of land in addition to its highways' rights-of-way. Such land would be sold, leased or otherwise disposed of for such purposes as would "aid in proper and efficient use of such highways and in the administration of this Act."

Would Require Practitioners to Be Lawyers

Representative O'Toole, Democrat of New York, has introduced H. R. 605 "to prevent and make unlawful the practice of law before government departments, bureaus, commissions, and their agencies by those other than duly licensed attorneys at law."

Fan Activities

The Pennsylvania will operate a special excursion for railroad enthusiasts from New York to Harrisburg, Pa., and return on January 26. At the latter point a special inspection will be made of the Maclay street roundhouse, the Enola freight yard and the Enola enginehouse. The trip of 390 mi. is priced at $3.50.

New York-Philadelphia "All Freight" Rates Suspended

The Interstate Commerce Commission has suspended from January 12, until August 12, the operation of certain Central of New Jersey and Lehigh Valley tariffs proposing to establish a rate of 25 cents per 100 lbs. on freight, all kinds, in mixed carloads, minimum weight 30,000 lbs., from New York, (West 26th Street Station and West 27th Street Freight Yard) to Philadelphia, Pa., and Sears, and in the reverse direction, to meet motor-truck competition.

Would Use Federal-Aid as Club to Fix Motor Speed Limits

States would be required to maintain specified speed limits for motor vehicles in order to qualify for federal-aid highway funds, under the provisions of H. R. 1428 which has been introduced by Representative Rich, Republican of Pennsylvania. As noted briefly in last week's issue the bill is labeled as a measure "to promote safety in the operation of motor vehicles on the highways of the United States."

The over-all maximum speed limit would be 50 m. p. h.; trucks with a gross weight of vehicle and load of not in excess of 2½ tons would be limited to 45 m. p. h.; trucks of 2½ to five tons gross weight, 40 m. p. h.; and trucks of gross weights exceeding five tons, 35 m. p. h. Nothing in the act would be deemed to require a limitation on speed of any vehicle operating on rails or of any vehicle operated by fire, police and hospital departments of any state or political subdivision thereof.

Seatrain's Rates Equal Break-Bulk

Eastman says that rates cannot, under present law, be held high to help a rival

Modifying a previous decision, the Interstate Commerce Commission, in a report by Chairman Eastman, has found that rail-ocean-rail rates applicable over Seatrain Lines, Inc., will henceforth be unreasonable to the extent that they exceed rail-ocean-rail rates previously prescribed for application in connection with break-bulk water lines competing with Seatrain for coastwise traffic moving between New York and New Orleans, La. The title case is No. 25727, and the prior report, reviewed in the *Railway Age* of February 12, 1938, page 316, authorized rates via Seatrain differentially higher than those via the break-bulk lines.

Another phase of the proceeding involved the attempt of Seatrain to equalize the situation in the New Orleans area with respect to traffic moving between that area and certain points in Southern territory. In that connection the commission found that the maximum switching charge absorbed by defendant railroads on traffic actually interchanged at New Orleans with Seatrain's break-bulk competitors is $6.30 per car. It added: "We consider that to be the highest amount which they may justly be required to absorb on traffic moving via Belle Chasse (La.), without adding thereto further amounts assessed at New Orleans which are not in effect at Belle Chasse." Just as Seatrain's New York sailings are from its special terminal facilities at Hoboken, N. J., so its New Orleans operations are conducted at a similar terminal in nearby Belle Chasse.

As the majority report points out, the proceeding was reopened after hearings got under way in an investigation and suspension proceeding involving tariffs whereby railroads "unfriendly" to Seatrain sought in their own way to obey the commission's order that they maintain joint rates with the seagoing car carrier. The report briefs the story of maneuvers whereby these "unfriendly" roads sought to keep their joint rates with Seatrain on the maximum reasonable basis permitted by the commission, while Seatrain sought through the publication of proportionals to bring such rates to parity with those applicable via the competing break-bulk lines. The proposed report in the reopened proceeding was issued last May; in it, as noted in the *Railway Age* of May 11, 1940, page 830, Examiners E. J. Hoy and M. J. Walsh recommended that if Seatrain and its "friendly" rail connections refuse to participate in joint rates on the maximum reasonable basis prescribed in the prior report, then the "unfriendly" roads should not be required to join in establishing rates on any lower basis.

It is that recommendation which the commission rejects when it finds that rates on par with those via the break-bulk lines will henceforth be maximum reasonable

rates via Seatrain. "The effect of the finding in the prior report," says Chairman Eastman speaking for the majority, "in all probability, would be to require Seatrain to charge somewhat more than the traffic will bear. We say 'somewhat more,' because the declared purpose of proponents of these differentials is to prevent to some considerable extent at least, diversion of the traffic from the break-bulk lines. In other words, they believe that these rates, with the differentials added, would be high enough to deter many shippers from using the service of Seatrain, so that they will continue to use the break-bulk service. To the extent that this result is accomplished the prescribed rates would plainly be higher than the traffic will bear."

Previously the commission had cited the new rate-making rules put into the Interstate Commerce Act by the Transportation Act of 1940. It called attention to the language limiting its consideration of the effect of rates on the movement of traffic to a consideration of such movement "by the carrier or carriers for which the rates are prescribed." Of these new words, Mr. Eastman said: "Their meaning, supported also by the legislative history, seems to be that no carrier should be required to maintain rates which would be unreasonable, judged by other standards, for the purpose of protecting the traffic of a competitor."

Commissioner Aitchison, concurring in the result of the majority report, did so after giving more weight to the value and worth of the service involved "than seemingly is accorded to those elements in the discussion in the report." Commissioner Mahaffie dissented, referring to his dissent to the prior report; and Commissioner Patterson agreed with him. Commissioner Johnson "was necessarily absent but if he had been present he would have voted for the adoption of the report." Commissioner Miller did not participate.

Would Curb Distribution of River and Harbor "Pork"

Senator Vandenberg, Republican of Michigan, has introduced Senate Resolution 31 to add to the standing rules of the Senate a new rule reading as follows: "When a rivers and harbers authorization bill is pending, a point of order may be made against the authorization of any project in any form not formally recommended to the Congress in an official report of the Board of Engineers for Rivers and Harbors."

New York's "L" Corporation Decides to Die

The Manhattan Railway Company, which once operated all of the elevated rapid transit lines in the boroughs of Manhattan and the Bronx, New York, took steps toward dissolution by vote of its stockholders at their annual meeting recently. The properties which Manhattan operated before April 1, 1903, and leased to the Interborough Rapid Transit Company thereafter, went into municipal ownership early this year along with the other rapid transit facilities of the city. The Sixth Avenue line had been acquired previously by the city in condemnation proceedings and demolished in 1939. The Ninth avenue and northern section of the Second avenue lines were closed shortly after unification and are currently being dismantled.

Just prior to abandonment of the Sixth avenue routes, the Manhattan owned 41 mi. of line representing 139 track-miles. Built in the 'Eighties and 'Nineties, its system was operated by light Forney-type steam locomotives until electrification in 1902.

Drops Probe of Central Territory Contract Carrier Rates

The Interstate Commerce Commission last week made public an order dated December 2, 1940, discontinuing the Ex Parte No. MC-27 investigation of Central Territory contract carrier rates. The commission's action came "upon consideration of the record . . . and of a motion of Contract Carrier Division, American Trucking Associations, Inc., for discontinuance of the investigation without prejudice to any of the parties interested therein."

Representation of Employees

Results of recent elections in connection with representation-of-employees disputes on the Washington Terminal and the South Buffalo have been announced by the National Mediation Board. On the Washington Terminal, the International Association of Machinists, operating through the Railway Employees Department, American Federation of Labor, beat out the Brotherhood of Railroad Shopcrafts of America, Unit No. 6, for the right to represent machinists, their helpers and apprentices. On the South Buffalo the yardmen (foremen and helpers) chose the Brotherhood of Railroad Trainmen, preferring it to the Switchmen's Union of North America.

New Haven Runs First "Skate Train"

The New York, New Haven & Hartford will operate what it terms "America's First Skate Train" from New York to Woodrow (South Kent), Conn., for the patronage of ice skaters on January 25. At Woodrow a large lake is conveniently located beside the road's tracks so that no transfer by bus or taxi is necessary. At the lake the railroad will supply large log fires and music for the customers.

The first skate train run was originally scheduled for January 11, but lack of sufficient ice caused its postponement. The skate train will leave Grand Central Terminal at 1:50 p. m. and arrive in Woodrow shortly after 4 p. m. After allowing more than five hours for "plain or fancy skating," the train, equipped with a refreshment car, will start out for home at 9:30 p. m.

I. W. C. in "Sound Financial Condition," Jones Reports

The Inland Waterways Corporation closed the fiscal year ended June 30, 1940, "in sound financial condition," having "no bonded debt or other obligations except of a current nature," according to comment on that government-owned water carrier which was included in the annual report of Secretary of Commerce Jesse H. Jones.

No financial data are given on the Corporation except a condensed balance sheet which shows that at the close of fiscal 1940 the assets totaled $25,525,928 including a property investment, less depreciation, of $19,453,755, U. S. Treasury bonds of $4,057,001 and cash of $678,869. Total liabilities were $1,031,391 leaving a net worth of $24,494,536. Mr. Jones recalled how the I. W. C. was transferred from the War Department to Commerce, effective June 30, 1939. "After an inspection of the far-flung activities of the Corporation and a study of its organic set-up," he went on, "new bylaws were promulgated on November 15, 1939, and as a result of changes in various phases of the Corporation's administrative and operative procedures, reductions in expenses amounting to approximately $115,000 per year were accomplished.

Freight Car Loading

Loadings of revenue freight for the week ended January 11 totaled 711,675 cars the Association of American Railroads announced on January 16. This was an increase of 97,504 cars, or 15.9 per cent, above the preceding week which included the New Years holiday, an increase of 43,434 cars, or 6.5 per cent, above the corresponding week last year, and an increase of 129,431 cars, or 22.2 per cent, above the comparable 1939 week.

As reported in last week's issue the loadings for the previous week ended January 4, totaled 614,171 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For Week Ended Saturday, January 4

Districts	1941	1940	1939
Eastern	133,973	130,744	114,577
Allegheny	139,710	126,110	101,094
Pocahontas	39,525	41,824	35,967
Southern	97,403	92,155	86,937
Northwestern ..	68,447	69,692	63,255
Central Western	90,200	87,876	86,163
Southwestern ..	44,913	44,524	41,378
Total Western Districts	203,560	202,092	190,796
Total All Roads	614,171	592,925	529,371
Commodities			
Grain and grain products	26,806	27,043	29,451
Live stock	10,187	12,410	12,823
Coal	123,127	149,522	116,818
Coke	12,153	11,592	7,295
Forest products.	29,819	26,120	21,988
Ore	12,623	9,369	8,995
Merchandise l.c.l.	125,101	123,274	122,716
Miscellaneous ..	274,355	233,595	209,285
January 4	614,171	592,925	529,371

In Canada.—Revenue carloadings in the week ended January 4 totaled 43,132, as compared with 38,358 a year ago and 40,358 in the previous week, according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
January 4, 1941	43,132	24,405
December 28, 1940 ...	40,358	23,855
December 21, 1940 ...	57,528	29,173
January 6, 1940	38,858	21,300
Cumulative Totals for Canada:		
January 4, 1941	43,132	24,405
January 6, 1940	38,858	21,300
January 7, 1939	35,664	21,076

Oldest Railroad Man Dies at 103

John Leonard Driscoll, former New York Central fireman and master mechanic of the Catskill Mountain railroad, died at Catskill, N. Y., on January 2, at the age

of 103 years. Known as Catskill's "grand old man," Mr. Driscoll commenced his railroad career as a locomotive fireman on the Hudson River railroad (now New York Central) in 1863, and then went with the Dutchess & Columbia and the Poughkeepsie & Eastern (now New York, New Haven & Hartford) as an engineer. When the three-foot gage Catskill Mountain R. R. was opened in 1882, Mr. Driscoll was made superintendent motive power and master mechanic, which positions he held until abandonment of the road in 1919.

Illinois Central Rail Cars—Correction

The buffet equipment on the new Illinois Central rail motor cars operating between Chicago and Champaign, Ill., and between Jackson, Miss., and New Orleans, La., respectively, was furnished by The Stearnes Co., Chicago, and not by Angelo Colonna as mentioned on page 822 of the *Railway Age* of November 30, 1940.

N. Y. Central Newspaper Made System-Wide

The "Central Headlight," a monthly tabloid newspaper which was started by representatives of New York Central employees in the New York City metropolitan district in January, 1940, for local circulation, has now been extended to all employees on the system, covering nine states and two provinces of Canada, approaching some 90,000 copies monthly. In increasing its coverage, the Headlight will be increased to eight pages and will be devoted entirely to the activities—both official and social—of all employees of the road. A short summary of the "production methods" of Headlight was carried in the *Railway Age* of January 20, 1940, page 181.

More Applications for Certificates to Amortize Facilities in 5 Years

Several railroads are on recently-issued lists of applicants to the War Department for certificates for special privileges under section 124 of the Second Revenue Act of 1940. As noted in last week's issue, the Southern and the Baltimore & Ohio were among 331 companies which had applied up to January 8.

Like those, the later railroad applications seek certificates of necessity which are required before facilities acquired in the interest of national defense may be amortized over a five-year period. The War Department's latest lists show that four additional applications have been filed by the B. & O. and one by the Southern. Also, the Lehigh Valley, Missouri Pacific, Virginian and Wabash have applied.

Santa Fes No. 39 Completes First Year

Fifty cars per trip at an average speed of 33.3 m. p. h. and an on-time performance of 97 per cent is the record set by No. 39 of the Atchison, Topeka & Santa Fe during its first year of daily operation as a fast merchandise train between Chicago and Kansas City, Mo. No. 39 was inaugurated on December 26, 1939, to improve the service offered Chicago shippers and as an added factor to compete with trucks. Throughout the year the train has operated on a schedule of 13½ hr. for the 450 miles, leaving Corwith yard in Chicago at 6 p. m. and arriving at Argentine, Kan., outside of Kansas City at 7:30 a. m. the next morning. On a portion of the run, the train travels at 65 m. p. h. With this schedule, Chicago shippers are also given third morning delivery to Beaumont, Tex., Galveston and Houston.

When the train was inaugurated, the maximum consist was fixed at 26 cars, but due to the business offered, the maximum was increased on several occasions and at the present time it is 50 cars. To handle this train on its fast schedule, 2-8-2 Mikado type locomotives are used. In ordinary freight service these locomotives handle trains of 4,000 tons between Chicago and Madison, Iowa, and 3,600 tons between that point and Kansas City, but when they are assigned to No. 39 the tonnage is limited to 1,600 tons.

The fast service provided by No. 39 is due in part to the transmission of waybills by teletype. After the departure of the train from Chicago, waybills are teletyped to Kansas City where a night shift prepares the freight bills so that the merchandise can be delivered immediately upon the arrival of the train.

Would Have I. C. C. Apply Harrington Amendment

The Missouri Pacific, the Texas & Pacific and the Texas Pacific-Missouri Pacific Terminal Railroad of New Orleans would be authorized to abandon existing car ferry operations in New Orleans and to use, instead, a bridge across the Mississippi river, if Division 4 of the Interstate Commerce Commission adopts a proposed report of its Examiner J. S. Prichard. At the same time Examiner Prichard has sought to have the commission apply for what may prove to be the first time, the labor-protection section of the Transportation Act of 1940, requiring that conditions be attached to the certificate in order that displaced ferry boat operators and some other employees may be protected during the period of their guarantee under the act.

At the same time, to carry out the project, Examiner Prichard would authorize the T. & P. and the M. P. to operate under trackage rights over the Public Belt from Avondale, La., to New Orleans, 15.3 miles. Because of the fact that no contracts have as yet been entered into, Examiner Prichard would have Division 4 dismiss that part of the application asking authority to operate over 1,340 ft. of the Illinois Central and seven miles of track of the New Orleans Terminal. He would also authorize the construction of about one mile of interchange tracks in New Orleans.

Would Have House Informed on Condition of Railroads

Representative Boland, Democrat of Pennsylvania, has introduced H. Res. 55 which would request the Interstate Commerce Commission and the Reconstruction Finance Corporation to furnish the House of Representatives information as to the physical and financial condition of the railroads and as to desirable changes, if any, in government policy on railroad loans. As noted elsewhere in this issue Mr. Boland is also sponsoring a super-highway bill.

Specifically the resolution would request the I. C. C. and R. F. C. to furnish: (1) Such information as they may have available relating to the present condition of the physical equipment of the railroads of the United States and the possibility of improvement in such equipment so that railroad transportation may be made as economical and efficient as modern methods may make them; (2) such information as they may have available relating to the financial condition of the railroads and particularly the amount, terms and possibility of repayment of their indebtedness to the United States and its agencies; (3) such recommendations as they may desire to make relating to changes in the policy of government loans to railroads in order that their physical equipment may be rehabilitated.

Water-Borne-Traffic Phase of New York Lighterage Cases

Examiner Burton Fuller has recommended in a proposed report an Interstate Commerce Commission finding that rates, charges, and terminal practices on import, export, intercoastal and coastwise traffic from and to points in New York Harbor are not unreasonable or otherwise unlawful, except with respect to certain extra towing charges. The proceeding, docketed as No. 28204, State of New Jersey v. Baltimore & Ohio Railroad Company, et al., involves the water-borne-traffic phase of the New York lighterage dispute.

"Complainants," Examiner Fuller said, "are entitled to no greater relief on water-borne traffic than they were accorded on local traffic in *Lighterage Cases*, 203 I. C. C. 481. The present situation on water-borne traffic with respect to extra towage charges is identical with that considered and condemned in those cases on local traffic. Following those cases and on this record, the commission should find that the rates assailed on water-borne traffic are and for the future will be, unduly prejudicial to New Jersey points to which extra towing charges now apply and unduly preferential of points within the lighterage limits, and that the rates, charges, and practices assailed are in other respects not unreasonable or otherwise unlawful."

Rehabilitation of Belgian Railroads a Costly Job

While the tracks of the Belgian National Railways are now open throughout, complete reconstruction of the system into permanent working order is expected to cost several hundred million francs (no exchange rate now published; at latest available quotation Belgian franc equalled 17 cents). The railways administration itself is not able to finance the job at the present time and the government has agreed in principle to bear the burden of the work, according to the U. S. Bureau of Foreign & Domestic Commerce. At present a portion of the system is under the control of the railways administration

while another part is operated by the railway management of the German Army, which is occupying Belgium.

Emergency repairs alone have already cost 220 million francs. During hostilities with Germany last May, 137 kilometers (85 mi.) of line, including 78,000 ties and 310 switches and crossings, were destroyed. Further damage included the destruction of 339 bridges and tunnels, complete destruction of nine interlocking towers and substantial damage to 69 additional plants. All told 600 railroad buildings were affected—80 being completely destroyed. Out of 167 water columns and track trough installations on the system, 40 were rendered completely useless. The bureau report does not attempt to estimate damage to rolling stock of the system, but does report that most of the cars and locomotives which had been evacuated to France during hostilities have been returned.

General Estrada to Manage Mexican Roads

President Avila Camacho of Mexico has appointed General Enrique Estrada as general manager of the National Railways of Mexico, under the new law abolishing the Worker's Administration and creating a de-centralized government corporation for their administration, with complete authority for reorganization, operation and management. General Estrada has not had any railroad experience but has stated that he expected complete co-operation from experienced officials and that an immediate return to proper standards of discipline must be made. General Estrada has already reappointed a number of former experienced officials.

A board of directors has been appointed, consisting of four government appointees and three representatives of the Union of Railroad Workers. Those representing the government on this board are Juan Gutierrez, former general manager; Pablo M. Hernandez, former division superintendent; Roberto Lopez, who was assistant executive president in 1936; and Manuel Buenabad, engineer in charge of the bureau of technical studies in the maintenance of way department. The union representatives are Santos Fierro, present assistant general superintendent of motive power; Pablo Cardoso, head of the bureau of passenger receipts, and Rafael Ortiz, train conductor.

Conducts Troop Movements by Commercial Motor Carriers

"Commercial motor carriers during the first week in January conducted the first complete highway movement of troops as a combat unit in the history of the United States," it was announced by the War Department on January 10. Preparations for the transfer of troops and their baggage and fighting equipment were made by the Quartermaster Corps in cooperation with the American Trucking Association and the Public Roads Administration.

The troop movement was conducted in Arkansas, with the 153d Infantry, Arkansas National Guard, being transported via highway from 15 points in the state to Camp Joseph T. Robinson which is located just outside of Little Rock. The movement involved approximately 1,900 officers and men, personal baggage, and quantities of organizational equipment and weapons. Fifty-six trucks, 21 buses, and many army vehicles made up the 15 convoys with the longest haul being 221 miles from Blytheville, Ark., and the shortest haul six miles from North Little Rock. The movement was presented as a tactical problem to bus and truck operators to determine the part that motor transportation of combat units by commercial carriers might play in national defense. Detailed studies of the movement and the manner in which it was conducted are being made by The Quartermaster General's Office.

October's Net Income Was $42,653,900

Class I railroads reported for October a net income after fixed charges of $42,653,900, as compared with a net income of $56,710,375 in October, 1939, according to the Interstate Commerce Commission's monthly compilation of selected income and balance sheet items. The year's first 10 months showed a net income of $100,932,114 as compared with a net income of $24,955,824 for the first 10 months of 1939.

The roads not in receivership or trusteeship had a net income of $38,403,640 as compared with $52,636,724 for the same month of last year; while the net income for the first 10 months of this year was $171,085,193 as contrasted with $116,477,520 for the same period last year.

Ninety-eight roads reported net incomes for October, while 30 reported net deficits; in October, 1939, there were 97 net incomes and 31 net deficits. For this year's first 10 months 68 reported net incomes and 60 had net deficits, as compared, respectively, with 64 net incomes and 64 net deficits in the first 10 months of 1939. The consolidated statement for all Class I

SELECTED INCOME BALANCE-SHEET ITEMS OF CLASS I STEAM RAILWAYS

Compiled From 131 Reports (Form IBS) Representing 136 Steam Railways
(Switching and Terminal Companies Not Included)

Income Items	All Class I Railways: For the month of October 1940	For the month of October 1939	For the ten months of 1940	For the ten months of 1939
1. Net railway operating income	$86,988,445	$101,716,354	$527,102,144	$457,433,159
2. Other income	11,753,099	11,047,877	116,102,476	111,411,138
3. Total income	98,741,544	112,764,231	643,204,620	568,844,297
4. Miscellaneous deductions from income	1,997,620	1,901,662	20,751,852	19,342,972
5. Income available for fixed charges	96,743,924	110,862,569	622,452,768	549,501,325
6. Fixed charges:				
6-01. Rent for leased roads and equipment	14,134,741	13,545,921	118,388,886	117,994,132
6-02. Interest deductions[1]	37,875,518	38,509,235	382,248,269	385,606,999
6-03. Other deductions	118,785	133,170	1,252,810	1,327,298
6-04. Total fixed charges	52,129,044	52,188,326	501,889,965	504,928,429
7. Income after fixed charges	44,614,880	58,674,243	120,562,803	44,572,896
8. Contingent charges	1,960,980	1,963,868	19,630,689	19,617,072
9. Net income	42,653,900	56,710,375	100,932,114	24,955,824
10. Depreciation (Way and structures and Equipment)	17,396,677	16,949,021	171,172,140	168,432,551
11. Federal income taxes	8,560,069	5,880,063	52,057,768	25,812,353
12. Dividend appropriations:				
12-01. On common stock	568,656	1,496,462	56,839,974	53,305,903
12-02. On preferred stock	764,781	1,009,781	15,492,151	14,416,864
Ratio of income to fixed charges (Item 5 ÷ 6-04)	1.86	2.12	1.24	1.09

Selected Assets and Liability Items[2]	All Class I Railways: Balance at end of October 1940	Balance at end of October 1939
13. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	$580,714,789	$628,653,239
14. Cash	625,989,262	579,160,442
15. Demand liens and deposits	41,492,770	24,952,796
16. Time drafts and deposits	27,399,931	29,774,513
17. Special deposits	119,095,213	75,038,730
18. Loans and bills receivable	2,820,206	2,686,343
19. Traffic and car-service balances receivable	71,326,614	73,940,528
20. Net balance receivable from agents and conductors	56,887,754	60,295,947
21. Miscellaneous accounts receivable	135,603,676	124,607,865
22. Materials and supplies	331,257,851	303,872,322
23. Interest and dividends receivable	21,284,665	19,499,236
24. Rents receivable	1,394,144	1,428,646
25. Other current assets	8,279,825	8,564,237
26. Total current assets (items 14 to 25)	$1,442,831,911	$1,303,821,605
27. Funded debt maturing within 6 months[3]	65,756,766	161,065,189
28. Loans and bills payable[4]	159,324,942	203,343,127
29. Traffic and car-service balances payable	90,962,588	93,826,810
30. Audited accounts and wages payable	238,891,304	244,000,382
31. Miscellaneous accounts payable	65,563,635	64,665,994
32. Interest matured unpaid	27,236,285	27,892,097
33. Dividends matured unpaid	1,555,069	1,858,928
34. Unmatured dividends declared	2,136,160	1,465,905
35. Unmatured interest accrued	83,226,411	82,694,964
36. Unmatured rents accrued	27,599,167	28,579,284
37. Other current liabilities	66,742,016	33,009,379
38. Total current liabilities (items 28 to 37)	$763,237,577	$781,336,870
39. Tax liability (Account 771):		
39-01. U. S. Government taxes	114,179,156	83,323,394
39-02. Other than U. S. Government taxes	154,573,138	159,647,014

[1] Represents accruals, including the amount in default.
[2] 1939 figures for certain liability items have been revised, for comparative purposes, to conform with changes prescribed in the Uniform System of Accounts by Commission's order of December 6, 1939, effective January 1, 1940.
[3] Includes payments of principal of long-term debt (other than long-term debt in default) which will become due within six months after close of month of report.
[4] Includes obligations which mature not more than 2 years after date of issue.

NET INCOME OF LARGE STEAM RAILWAYS

(Switching and Terminal Companies Not Included)

Name of Railway	Net income after depreciation, For the ten months of 1940	Net income after depreciation, For the ten months of 1939	Net income before depreciation, For the ten months of 1940	Net income before depreciation, For the ten months of 1939
Alton R. R.	*$1,619,427	* $904,683	*$1,402,449	* $690,423
Atchison, Topeka & Santa Fe Ry System[4]	7,644,762	5,745,789	17,646,899	15,602,044
Atlantic Coast Line R. R.	* 556,528	* 1,000,624	1,150,407	727,502
Baltimore & Ohio R. R.	2,287,698	* 2,499,853	8,320,900	3,477,964
Boston & Maine R. R.	1,233,692	311,339	2,441,694	1,588,542
Central of Georgia Ry.[2]	* 1,781,958	* 2,206,905	* 1,072,318	* 1,497,750
Central R. R. of New Jersey[2]	* 2,614,903	* 2,259,714	* 1,472,851	* 1,091,364
Chesapeake & Ohio Ry.	27,906,172	21,393,293	34,938,745	28,263,119
Chicago & Eastern Illinois Ry.[2]	* 1,202,073	* 1,094,430	* 697,365	* 591,060
Chicago & North Western Ry.[2]	* 5,156,443	* 8,326,176	* 1,040,266	* 4,193,645
Chicago, Burlington & Quincy R. R.	2,123,955	1,746,145	6,547,689	6,085,859
Chicago Great Western R. R.[2]	* 380,166	* 183,457	88,565	263,481
Chicago, Milwaukee, St. Paul & Pacific R. R.[2]	* 8,588,790	*13,761,928	* 3,613,300	* 8,940,391
Chicago, Rock Island & Pacific Ry.[2]	* 5,309,063	* 7,218,904	* 1,837,358	* 3,802,723
Chicago, St. Paul, Minneapolis & Omaha Ry.	* 1,839,727	* 2,079,092	* 1,369,393	* 1,596,583
Delaware & Hudson R. R.	1,493,722	1,481,779	2,396,376	2,323,232
Delaware, Lackawanna & Western R. R.	* 398,832	* 688,690	1,652,339	1,339,585
Denver & Rio Grande Western R. R.[2]	* 3,290,369	* 3,935,264	* 2,254,041	* 2,927,289
Elgin, Joliet & Eastern Ry.	2,591,862	1,468,070	3,452,870	2,260,225
Erie R. R. (including Chicago & Erie R. R.)[3]	* 67,403	* 1,795,896	2,972,757	1,257,132
Grand Trunk Western R. R.	* 465,901	* 2,628,517	518,000	* 1,656,168
Great Northern Ry.	8,467,752	4,691,823	11,571,536	7,768,052
Illinois Central R. R.	* 1,202,704	974,100	4,104,315	6,416,000
Lehigh Valley R. R.	* 195,018	* 336,878	1,536,529	1,424,572
Long Island R. R.	* 871,171	* 1,130,143	107,246	* 150,152
Louisville & Nashville R. R.	6,958,684	5,432,797	10,584,404	9,045,846
Minneapolis, St. Paul & Sault Ste. Marie Ry.[2]	* 3,369,348	* 4,666,981	* 2,349,343	* 3,651,625
Missouri-Kansas-Texas Lines	* 2,586,644	* 2,832,369	* 1,604,845	* 1,788,504
Missouri Pacific R. R.[2]	* 9,657,320	*11,619,482	* 5,914,543	* 7,983,475
New York Central R. R.[5]	5,278,336	* 1,554,079	18,578,784	11,672,441
New York, Chicago & St. Louis R. R.	2,116,429	1,608,371	3,439,873	2,911,673
New York, New Haven & Hartford R. R.[2]	* 3,128,814	* 3,415,651	* 361,519	* 605,004
Norfolk & Western Ry.	26,849,660	23,455,198	32,050,380	27,672,893
Northern Pacific Ry.	* 633,487	* 3,671,474	2,196,895	* 855,426
Pennsylvania R. R.	26,550,797	21,284,550	49,459,126	43,608,342
Pere Marquette Ry.	810,880	* 143,381	2,697,235	1,818,939
Pittsburgh & Lake Erie R. R.	3,973,005	2,108,896	5,821,943	3,977,379
Reading Co.	4,712,895	3,585,547	7,251,304	6,178,039
St. Louis-San Francisco Ry.[2]	* 6,828,488	* 7,691,498	* 4,290,615	* 5,138,644
St. Louis, San Francisco & Texas Ry.	* 241,590	* 189,280	* 241,451	* 188,586
St. Louis Southwestern Lines[2]	* 359,453	* 1,868,644	172,121	* 1,352,526
Seaboard Air Line Ry.[1]	* 5,082,320	* 5,464,260	* 3,122,245	* 3,667,591
Southern Ry.	3,539,009	3,177,219	6,479,717	6,078,108
Southern Pacific Transportation System[6]	3,646,679	4,238,438	10,247,323	10,773,075
Texas & Pacific Ry.	1,030,546	550,120	2,050,046	1,552,547
Union Pacific R. R. (including leased lines)	11,379,239	11,954,620	17,787,155	18,145,405
Wabash Ry.[1]	* 2,749,756	* 3,671,086	* 947,321	* 1,878,794
Yazoo & Mississippi Valley R. R.	* 78,664	* 63,752	347,151	347,056

* Deficit.
[1] Report of receiver or receivers.
[2] Report of trustee or trustees.
[3] Under trusteeship, Erie R. R. only.
[4] Includes Atchison, Topeka & Santa Fe Ry., Gulf, Colorado & Santa Fe Ry., and Panhandle & Santa Fe Ry.
[5] Includes Boston & Albany, lessor to New York Central R. R.
[6] Includes Southern Pacific Company, Texas & New Orleans R. R. and leased lines. The report contains the following information: "Figures reported above for Southern Pacific Transportation System exclude offsetting debits and credits for rent for leased roads and equipment, and bond interest, between companies included therein. Operations for 1940 of separately operated Solely Controlled Affiliated Companies (excluding results for Southern Pacific Railroad Company of Mexico), not included in above statement, resulted in a net deficit of $333,778 for the month and $4,151,709 for the period. These results include $213,983 for the month and $2,124,780 for the period, representing interest on bonds of such companies owned by Southern Pacific Company not taken into income by S. P. Co. and, therefore, not included in the 1940 income results for the System reported above. The combined results for 1940 for Southern Pacific Transportation System and separately operated Solely Controlled Affiliated Companies (excluding S. P. R. R. Co. of Mexico) amounted to a net income of $3,467,929 for the month and $1,619,750 for the period. Figures herein given exclude results of S. P. R. R. Co. of Mexico for the reason that policy was adopted January 1, 1940 of making no further advances to that company, it being required to conduct its operations entirely within its own resources."

roads and that showing net incomes or deficits of roads having annual operating incomes over $25,000,000 are given in the accompanying tables.

Bills Introduced in Congress

Representative Tenerowicz, Democrat of Michigan, has introduced in the House H. R. 35, which provides, among other things, that it shall be unlawful for any person to transport any person or property in interstate commerce in a vehicle, boat, airplane, or mechanism run on rails, if the motive power is supplied by an internal-combustion engine, unless the motor fuel used contains a specified volume of alcohol manufactured from agricultural products. The bill provides that the percentage of alcohol shall range from two per cent in 1941 to a maximum of 10 per cent in 1945 and each succeeding year.

Representative Kerr, Democrat of North Carolina, has offered H. R. 2089, a bill providing that 50 per cent of federal highway-aid funds shall be applied to secondary and feeder roads, including farm-to-market roads and rural free delivery mail routes.

Another road bill, H. R. 2094, providing for the apportionment among the states for road construction of all funds derived from any federal tax on the sale of gasoline or lubricating oils has been placed in the House hopper by Representative Secrest, Democrat of Ohio. The bill provides that beginning with the first quarter after the date of enactment all amounts derived from any federal tax on the sale of gasoline or lubricating oils shall be deposited in a special fund in the Treasury to be known as the "Road-Aid Fund." It is further provided that the amount accumulated in the fund in each quarter shall be apportioned at the end of the quarter among the states by the Federal Works Administrator according to the ratios used in apportioning federal road-aid funds under section 21 of the Federal Highway Act. The amounts apportioned to each state would be made available to the states for expenditure according to regulations prescribed by the Federal Works Administrator, on state highway projects approved under the Federal Highway Act and would have to be matched by state funds in the same manner as federal funds expended by the states are now matched. The bill further provides that not in excess of 60 per cent of any amount distributed to any state in any quarter can be expended on the primary or interstate system of federal roads in a state.

Representative Bland, Democrat of Virginia, has introduced in the House H. R. 560, a bill to establish a system of unemployment insurance for the maritime industry. The system would be administered by the Railroad Retirement Board.

Senator McKellar, Democrat of Tennessee, has introduced S. 315 to provide for the alteration, reconstruction, or relocation of certain highway and railroad bridges by the Tennessee Valley Authority; it is a substitute for S. 124 which was noted in last week's issue.

Warehousemen Protest Rail Services on Package Cars

The Merchandise Division of the American Warehousemen's Association has asked the Interstate Commerce Commission to institute upon its own motion an investigation of railroad tariffs covering the unloading, sorting for split delivery and reforwarding of package car freight in Southern, Southwestern and Western territory. The tariffs assailed are F. D. Miller's I. C. C. No. 577; L. E. Kipp's I. C. C. No. A-2987; and J. R. Peel's I. C. C. No. 3213; the petitioner asserts that they "primarily are purposed for, and are unduly preferential to, shippers of certain classifications of traffic, namely, the forwarders, the pool car shippers, the shippers of package freight and consolidated carload freight, and manufacturers shipping under transit tariffs."

The tariffs, according to the petition, are tantamount to cancellation of sections 1 and 2 of Rule 23 of the classification. This is the rule stipulating that railroad agents will not act as agents of shippers, which the carriers are now seeking to cancel. In that connection the petition goes on to say that while the assailed tariffs include rules providing that the railroads shall not be designated as consignors or consignees, "nevertheless they do act in the capacity of agent for the shipper and perform service for him that he should perform for himself."

Moreover, the Warehousemen say that the investigation they seek should not be limited to railroad practices, but should include also practices of competing motor carriers, particularly those on account of which the railroads "have urged there is a competitive reason" for publication of the assailed tariffs.

Socialism's Spread Seen Cause of War and Internal Strife

"The greatest danger to this country from the present war is that it will stimulate a 'class war' here which will result in the establishment of some kind of a dictatorship that will destroy economic free-

dom and private enterprise." This was the keynote of an address by Samuel O. Dunn, editor of *Railway Age* and chairman of the Simmons-Boardman Publishing Corporation, before the 52nd annual dinner of the Central Railway Club of Buffalo, N. Y., on January 9. The speaker emphasized his opinion (which he has never known to be stated by anybody else) "that the propaganda and movement for socialism carried on during the last three-quarters of a century throughout the world are, directly and indirectly, the principal, fundamental cause of the bloody strife which has now engulfed so much of the modern world."

Mr. Dunn went on to explain that socialistic movements in Italy and Germany preceded Fascism and Naziism directly—and were the cause which drove the property-owning middle class to aid in the establishment of dictatorships. Also, he asserted, "it was the policies and threatened policies of the socialist-communist 'popular-front' government in France which so scared and enraged the middle class of that country as to split it wide open and prepare it to fall an easy prey to Hitler when he struck."

The speaker urged, therefore, that in addition to arming ourselves against foreign aggression, we must "keep constant guard against those who in peace have favored socialistic policies, and therefore can be depended on to use the danger of war, or actual war itself, as merely another argument for adopting more socialistic policies. For the war abroad is no more of a threat to the peace and future of this country than the maneuvers of these promoters of socialism at home."

New Haven Gets a Rebuilt Magazine

"Along the Line," monthly for New York, New Haven & Hartford employees, "has been called into the shop for a Class 3 overhaul," in the words of Editor Samuel A. Boyer. "We tore it down, right down to the ground, and started to build all over again. We discussed, criticized and usually argued about everything that was to go into the paper."

The new publication has been enlarged to a format slightly smaller than the *Railway Age,* been extended in approach and circulation to serve patrons and prospective customers of the road and has plenty of photography, color, "fast" text and art-work compounded to make it more readable.

To interest the new class of readers, and as well familiarize New Haven employees with the territory they serve, the editors intend that each issue carry an informal description (with plenty of good pictures) of some point on the road and that individual industries be featured from time to time. The January issue—first under the new policy—contains an article on national defense industry in New England, a description of the city of New Haven, Conn., and a review of the activities of a large paper and floor covering concern located at Norwood, Mass.

Employees' personal items, which make up the bulk of most railroad staff papers, have been compressed into small print—though with a gain in readability—and a full page of 17 photographs placed together casually more than fills the bill for family publicity. Novel features are "columns" "My Day's Work" and "That's My Hobby," presumably to be written by a different employee for each issue.

Defense Traffic Brings Panama Railroad a Boom Year

National defense construction on the Isthmus of Panama made the fiscal year ended June 30, 1940, a boom year for the government-owned Panama Railroad Company, according to the annual report of President Glen E. Edgerton. For the fiscal period under review the Company's railroad operations resulted in a net revenue of $806,359—over four times the comparable net-revenue figure of $193,323 for the previous fiscal year ended June 30, 1939.

Fiscal 1940's gross from railroad operations was $2,165,938, as compared with $1,601,804 for 1938-39. At the same time the Company's steamship line operating between the Canal Zone and New York reported a 1939-40 net of $114,953 as compared with a deficit of $87,005 for the preceding year; while its Commissary Division and its Harbor Terminals also enjoyed substantial increases in net. In short, the aggregate 1939-40 net income from all operations was $2,611,213 an increase of 88.18 per cent over 1938-39.

Perusal of the report reminds the reader again that here is one railroad that goes in for "outside investments" in a big way. The government has used it to provide various services to Canal Zone residents. One tabulation of the Railroad Company's "manufacturing plants" lists a laundry, a bakery, coffee roasting plants, ice manufacturing plants, ice cream and bottling plants, a sausage factory, an industrial laboratory and an abattoir. Also, the report refers to real estate operations, a dairy farm, hotel operations and telephone and electric clock operations.

Returning to the railroad operations, the report shows that during 1939-40, the Company contracted for the purchase of five new steam locomotives, five new Diesel-electric locomotives and 50 new freight cars.

Wants United States to Build India's Roads

American motor vehicle manufacturers and truck and bus operators are reputed to be unusually adept at influencing the government to furnish money for highways. Their fame has apparently spread for we are now confronted with a proposal by a British highway enthusiast that United States taxpayers put up the ante for a modern highway system in British India in return for which the American motor vehicle industry would receive a 25-year monopoly to supply India with motor vehicles and organized transportation service. W. R. Jeffreys, a well-known British highway "improver," has written a letter to "Modern Transport" suggesting that Great Britain arrange with the government of the United States—"a government that believes in roads"—to give India roads and road transportation. Concretely, his proposal is that the United States government be invited to build an up-to-date highway system in India over the next 20 years; in return for which the United States would receive from Great Britain and India, for a period of 25 years, the monoply of supplying India with "road motor transport."

The writer has for some time despaired of seeing any change in policy on the part of the government of India with respect to an alleged discouragement of motor transportation. Since that date, however, he has had "a new vision and a new hope" in the recent speech of Prime Minister Churchill noting the benefits of co-operation between Great Britain and the United States. Thus inspired, Mr. Jeffreys suggests that Great Britain arrange with the government of the United States "to give India the roads and road transport she needs." He asks that the proposal be given to the consideration of the British Prime Minister, Secretary of State for India and the British ambassador to the United States.

"Modern Transport," treating the letter editorially gives assent to the desirability of improving India's roads but shies at singling out the United States for the job. It comments: "The provision of roads in India is a responsibility of the government of India, and it is for those most conscious of its failure in duty to coerce it by any and all legitimate means."

Club Meetings

The Transportation Club of Rochester, N. Y., will hold its 17th annual dinner at the Rochester Chamber of Commerce on February 5. Dr. Allen A. Stockdale, of the National Association of Manufacturers, will be the guest speaker.

The Pittsburgh Traffic Club will hold its 40th annual dinner at the William Penn hotel at Pittsburgh, Pa., on January 24. M. W. Clement, president of the Pennsylvania, will be the principal speaker of the evening. A. C. Schweitzer, traffic manager of the United States Steel Corp., is general chairman in charge of all arrangements.

The Northwest Car Men's Association will hold its next meeting on February 3 at the Midway Club, 1931 University avenue, St. Paul, Minn., at 8 p. m. Proposed changes in A. A. R. rules will be presented by the A. A. R. Committee. W. D. Wiler, car foreman, Chicago Great Western, St. Paul, Minn., is chairman.

The Car Foremen's Association of Chicago will hold its next meeting on February 10 at the Hotel LaSalle, Chicago, at 8 p. m. J. E. Mehan, assistant superintendent, car department, Chicago, Milwaukee, St. Paul & Pacific, and the A. A. R. Committee of the Association, will discuss proposed changes in the A. A. R. Rules of Interchange, effective January 1, 1942.

The New England Railroad Club will hold its next meeting at the Hotel Touraine, Boston, Mass., on February 11 at 6:30 p. m. H. R. Clarke, engineer maintenance of way, Chicago, Burlington & Quincy, will present a paper entitled "The Preparation and Maintenance of Track for High Speed Operation." The meeting will start with a dinner at 6:30 p. m.

The Railway Club of Pittsburgh will

hold its next meeting on January 23 at the Fort Pitt hotel, Pittsburgh, Pa., at 8 p. m. Otto S. Beyer, member, National Mediation Board, Washington, D. C., will present a paper dealing with railroad labor relations. Dinner for members and guests at 6:30 p. m. will precede the meeting.

The Metropolitan Traffic Association of New York will hold its next meeting at the Pennsylvania Hotel, New York, on January 23. Judge F. X. Masterson will be the guest speaker on the topic, "What Have You Got To Lose?" A traffic forum continuing the club's consideration of rules of the Consolidated Freight Classification will precede the main meeting.

Atlantic Board Considers L.c.l.

(*Continued from page 188*)

the Railroad Contact committee, the rail carriers are thoroughly aroused to at least to some of the shortcomings of their less-than-carload transportation policies and service."

The committee has referred to the Railroad Contact committee the following general subjects: (1) a key system of indicating l. c. l. routings other than by carriers' initials; (2) adoption by the carriers of a universal short routing of l. c. l. shipments in order to expedite delivery; and (3) universal closing time of freight sheds so as to co-ordinate the dispatch of rail freight with the closing hours of industrial producers of freight. The chairman pointed out that the committee was also considering other proposals, including more intensive policing by the railroads of less-than-carload service to determine whether it lived up to the advertisements; consolidation of pick-up and delivery service contracts to reduce truck congestion; improved disposition of strayed shipments and expediting the trans-shipment of goods from cars side-tracked for repairs.

The Legislative committee presented a lengthy report on the St. Lawrence Seaway condemning the proposal as being unnecessary in the name of national defense and a needless waste of money and materials when both are needed badly. The report dealt largely with points covered by Judge Fletcher in his address. In connection with the power aspect of the proposal the board emphasized that any possible power requirements in Canada can be handled by present facilities and some 21 proposed sites for future hydro-electric power generation, no one of which has any association with the St. Lawrence Seaway. As for New York State the excessive generating capacity of all electric generators over peak load for 1940 was approximately 50 per cent and the growth in peak load from 1939 to 1940 was less than 8 per cent. The report also hit upon the effect of the seaway on the already depressed coal industry of the nation, pointing out that a seaway would create a greater import market for subsidized and tariff-preferred coal of Great Britain, Nova Scotia and Russia in Canadian markets. In addition to this, the fuel development of the power project would lead to the displacement of thirty to thirty-five million tons of American bituminous coal per year. In connection with the report, the board passed a resolution stating its continued opposition to the St. Lawrence project.

At the special freight loss & damage prevention meeting held on January 8 R. W. Krantz, regional traffic manager, Sears, Roebuck & Co., summarized the work of the Freight Loss & Damage Prevention committee in conducting a trial clinic recently in Philadelphia, pointing out that a heavy-duty flat car, latest-type box car and refrigerator car were spotted for experimental purposes. In addition, different types of containers, boxes and crates, were placed on exhibition and demonstrated; Mullen and Cady testers and the Elmendorf tear tester were explained, and working models of the revolving drum testing machine and Conbur incline impact tester were shown in tests on actual packed shipping containers. Edward Dahill, chief engineer, Freight Container Bureau, A. A. R., told the meeting that new furniture is national claim problem No. 1—inasmuch as claims on this commodity have indicated a continual upward trend during the last few years.

(a) Analysis of results obtained in loading of juice grapes with recommendation to be made to the Freight Claim Division in connection with Freight Container Bureau Tariff 1-A.
(b) Study in connection with complaint made because of improper closing of loaded refrigerator car doors.
(c) Study in connection with damage in shipments of new furniture.
(d) Study in connection with damage in shipments of hollow building tile.
(e) Report on prevention activities of the Trunk Line Freight Inspection Bureau.

The following officers were elected for 1941: General Chairman, C. J. Goodyear, traffic manager, Philadelphia & Reading Coal & Iron Co.; First Alternate General Chairman, A. C. Welsh, transportation secretary, Brooklyn Chamber of Commerce; Second Alternate General Chairman, C. H. Vayo, general traffic manager, Eastman Kodak Company; General Secretary, R. C. Huntington, secretary, Casey Jones, Inc., and Secretary, W. L. Harvey.

Raps Fletcher Speech on St. Lawrence Seaway

For an extension-of-remarks entitled "The St. Lawrence Waterway—Sectionalism and the Contentions of the Railroads Duly Met and Answered," Representative Gehrmann, Progressive of Wisconsin, used 1½ pages in the appendix to the January 13 issue of the Congressional Record. The inspiration for Mr. Gehrmann's remarks about the contentions of the railroads was the address delivered in New York last week by Judge R. V. Fletcher, vice-president and general counsel of the Association of American Railroads; it was reported in the *Railway Age* of January 11, page 144.

Before getting underway Mr. Gehrmann wanted "to have it distinctly understood that I aim to be wholly fair to the railroads . . ." Nevertheless, he found them "at it again" despite "the manifold considerations given to the railroads by Congress, including a transportation law they wrote for themselves at the last session of Congress." Also, this "renewed opposition to this vital Great Lakes-St. Lawrence seaway and power project" comes from "the same railroads which still owed the federal government on December 1, 1940, $601,142,276 upon loans authorized through the Reconstruction Finance Corporation in the past decade amounting to $916,424,716."

Next, Mr. Gehrmann juxtaposed recent seaway pronouncements of President Roosevelt's and a quotation from Judge Fletcher's New York address, adding: "In short, the general counsel of the government-helped railroads has issued a 'call to arms' against a project that the President of the United States scarce a few weeks before had declared not only was vital to defense but 'means a more secure nation—a continent protected and served by additional shipping built in inland shipyards—shipyards to help build ships which will bring back commerce to harbors of the Atlantic Coast ports.'"

"This is my case," Mr. Gehrmann went on. "The loose words of a paid railroad attorney versus the insistent demand of our President in a time of economic stress in the Nation and the entire world for an undertaking of absolute national defense."

From there the Wisconsin Progressive proceeded to the "sectionalism" phase of his essay, finally coming around to the familiar it-won't-hurt-the-railroads-anyway idea. In the latter connection he said: "St. Lawrence tonnages, according to the estimates of the best railroad experts, constitute hardly a flea bite upon the national transportation pattern . . . the St. Lawrence waterway is nothing for the railroads to fear. Could it be that an ambitious railroad attorney is seeking to earn his fee by trumping up a false alarm, a straw scare?"

Meanwhile in the appendix to the January 10 issue of the Record, Representative Schwert, Democrat of New York, had inserted a resolution in opposition to the seaway which was recently adopted by the Board of Supervisors of Erie County, N. Y.

Broker Can Get Commission from Motor Carrier

Collection by a broker of compensation from carriers whose transportation or service is sold or arranged for is not unlawful, according to an Interstate Commerce Commission decision affirming findings of a prior report by Division 5. The decision is in No. MC-12087, P. D. Copes Broker Application, which case, in the words of the commission, was made by protestants "the vehicle for the presentation of their objections to certain almost universal practices of brokers of transportation by motor vehicle."

Commissioner Lee, dissenting in part, was unable to concur "in the finding that persons who solicit freight for carriers on a commission basis are brokers, and may, as such, collect compensation for their services from the carriers." Commissioner Johnson subscribed to Mr. Lee's expression while Commissioner Rogers did not participate.

Findings of the majority report, in addition to the one noted above, are that the applicant's request for a license to operate as a broker of transportation by motor vehicle of specified commodities between points in Virginia, on the one hand, and

points in various adjacent states and the District of Columbia, on the other, is approved; that brokerage of transportation to be performed by contract carriers is not unlawful if confined within prescribed limits; and that brokerage of transportation to be performed by exempt carriers of agricultural products is not subject to the Interstate Commerce Act.

Because of the importance lent to the case by the aforementioned action of protestants, the majority report embodied a review of the circumstances which encouraged the development of the business of brokers of transportation by motor vehicle. Also, it bolstered the finding as to payment of compensation with numerous citations of pertinent past decisions. "Everything considered," it said, "we are convinced that brokers of transportation by motor vehicle occupy a legitimate place in the transportation system and render to numerous carriers services indispensable to efficiency and economy of operation and to flexibility and expedition in service, which these carriers lawfully can and should pay for, subject to such rules and regulations as may hereafter be prescribed by us."

Dissenter Lee didn't see it quite that way. "In view of our inability to regulate the charges of brokers," he said, "the distortion of the plain provisions of the act so as to enable brokers to collect their compensation from carriers will not cure the evils arising from the practice of persons, who come into control of traffic of shippers and obtain unreasonably high commissions by 'shopping around' among competing carriers. On the contrary, it will legalize the practice, and such persons will still be free to prey upon the carriers. And since, if carriers are to remain in business, their rates must be high enough to enable them to pay these commissions, the burden of the commissions must be passed on to the shippers and, in the final analysis, to the consumers of the goods shipped."

Army Appoints Transportation Advisory Group

Major General Edmund B. Gregory, the Quartermaster General, has selected a group of transportation officials as advisors to him on all phases of Army transportation problems, according to an announcement by the War Department on January 11. Representatives of rail, water, bus and truck, and air transportation agencies comprise the advisory group in addition to Army officials.

Appointed to this advisory group by General Gregory, who, as Quartermaster General, is traffic manager of the War Department, were the following:

C. C. Wardlow, chairman, sole arbiter, Transatlantic Passenger Conference, New York City; R. C. Morse, vice president, Pennsylvania, Philadelphia, Pa.; John M. Franklin, president of the International Mercantile Marine, New York City; Harry D. Crooks, president, Crooks Terminal Warehouses, Chicago, Ill.; C. R. Smith, president, American Airlines, Inc., New York City; Arthur M. Hill, president, National Association of Motor Bus Operators, Charleston, W. Va.; Ted V. Rodgers, president, American Trucking Associations, Washington, D. C.; Colonel L. W. Oliver, retired, U. S. Army, Washington, D. C.; and Commissioner John L. Rogers of the Interstate Commerce Commission. General Gregory and Colonel D. C. Cordiner, QMC, Chief of the Transportation Division of the office of the Quartermaster General, are ex-officio members of the group.

An announcement from the War Department says that the committee, at its initial meeting in Washington, discussed the nature of transportation problems. Among the other members of government agencies and transportation bodies who sat in with the committee at its first meeting were Ralph Budd, transportation commissioner of the Advisory Commission to the Council of National Defense, and M. J. Gormley, executive assistant of the Association of American Railroads.

General Gregory, in announcing the appointment of the group at the first meeting, outlined four lines of study along which the group could operate "in an effort to insure that each form of transport shall operate within its own sphere of integrated and coordinated system." These lines are:

Increase of efficiency of transport in present means and methods.

The most effective use of each form of transport to meet military traffic problems.

The best use of modern transport to reduce static inventories of military stocks with particular emphasis on a transportation set-up that will reduce the delivery time to consumer of items which cannot be produced on time or quantity.

What difficulties can we look for and avoid in the event of a major emergency?

Meanwhile, in an effort to facilitate the movement of military traffic with the least interference possible with normal civilian traffic on the highways, the governor of each of the 48 states has been asked by the War Department to name a committee to advise and aid in the preparations of plans for Army troop movements. One member of each state committee will act as a liaison officer between the state and the Army.

An announcement from the War Department points out that since the Army is the largest motor fleet operator in the nation, alleviation of the traffic problem is one of immediate urgency in view of the rapid expansion expected in the near future.

The state committees will support and cooperate with the work of the Highway Traffic Advisory Committee, formed December 9, 1940, to give advice on military traffic movements. The utmost in mutual cooperation between all parties concerned will be necessary to bring about the most effective solution of the problems which must be met, it is pointed out.

The liaison man of each state committee will be the contact man with the Army. In case of large troop or supply movements, this civilian expert will advise the Army on routes, safety precautions, arrange for police escorts through the larger cities, and various other details that must be arranged for such large scale movements. The liaison officer will in most cases be furnished data on the movement well enough in advance that he will have time to make a thorough study of the problem before giving advice on details, it is stated. The Army's objective in all movements will be to get its vehicles through as fast as possible with the minimum of interference with regular traffic.

A. A. R. Men Talk On Car Supply

(*Continued from page 187*)

cedented and record-breaking increase in traffic without congestion or delay. One year later, we had 61,468 more serviceable freight cars than we had in October, 1939. In 1940, the capital expenditures of Class I railroads were 53 per cent greater than they were in 1939, and 76 per cent greater than they were in 1938. Similarly, railroad expenditures for materials and supplies were 10.5 per cent greater in 1940 than they were in 1939, and almost 46 per cent greater than in 1938. During the past year, the railroads bought and placed in service more than 60,000 freight cars and almost 400 locomotives. Under construction at the end of the year were 30,684 additional freight cars and 182 additional locomotives. Railroads, individually and through the Association of American Railroads, will continue to study and provide for the expanding production.

"A railroad is the only transportation agency that depends upon its patrons for all the money needed to meet its payrolls and its repair bills and taxes. It would not be in the interest of shippers for railroads to maintain too large a surplus of cars and locomotives. Our entire effort has been to maintain an adequate rather than an extravagant supply, and we shall continue to work on this basis. This, of course, sometimes causes tight situations in supplying shippers with the particular size or type of car they want on a certain day. When these situations arise, you can expect the Car Service division of the Association of American Railroads to begin releasing suggestions for more efficient use of cars. They will tell you to load more tons in each car and they will urge particularly that you load and unload cars promptly.

"We know that shippers are making great improvement in their loading and unloading methods. Compared with what they were doing in 1920, for the past eight years they have saved annually an average of 14 million dollars in demurrage charges alone. It is an excellent record, but I want to remind you that shippers are still spending more than six million dollars a year for demurrage. This money can be saved, and I know that all shippers are working toward that end. We are not satisfied with our efforts to increase the load per car and will continue to strive for better results."

L. M. Betts, manager of the Car Service Division, showed that the railroads are operated with unprecedented efficiency, not only because of greater carrying capacity, but also because of highly improved locomotives. "The national defense program," he said, "as yet has caused no serious strain upon the transportation facilities of the railroads. Some unusual situations have arisen requiring particular types of cars, which afford an illustration of the

ability of the railroads to protect unusual transportation demands.

As an illustration, one of the larger truck manufacturing companies has an order for more than 25,000 huge six-wheel motor trucks for the Army. These trucks are so large that they can only be loaded in 50-foot end door cars of unusually wide dimensions. The loading railroad owns only 200 of these cars and is required to meet a daily schedule that at times runs as high as 80 carloads per day. Only by the co-ordination of the car supply of all railroads owning this type of car would it be possible to protect these requirements. Car owners have voluntarily turned over to the Car Service division the distribution of their equipment to the extent necessary to meet the requirements of this operation. Similar action has been taken in another instance requiring 50-foot device cars for government trucks. Owners of the cars are voluntarily devoting about 20 per cent of their ownership to the needs of this production.

"These are merely illustrations of the flexibility of the railroad organization, co-ordinated through the Car Service division, under which any unusual transportation emergency can be promptly met. Through the contacts with the shippers advisory boards in connection with our thirteen district offices, we are in a position to anticipate needs of this kind in ample time to take the necessary action."

George C. Randall, manager of port traffic of the A. A. R., said that although in recent months freight traffic moving through Atlantic and Gulf ports has approximated two-thirds of the peak volume of the first World War, there has been no time when more freight could not have been handled at practically every point. "This," he continued, "is in striking contrast to the situation during the World War when practically all North Atlantic ports were embargoed and all traffic moved on permit.

"The ability to keep the port of New York 'liquid' depends largely upon the lighterage situation. Prior to November, 1939, little control was exercised over the loading of lighters and no permit was insisted upon as a pre-requisite to ordering the freight loaded on lighters. This resulted in a large number of lighters being held under load over 48 hours. To remedy this situation, a joint committee, made up of representatives of steamship lines and railroad lighterage agents, was formed under the direction of the Maritime Association of New York, the General Managers' Association of New York and the Association of American Railroads, with E. J. Karr, vice-president of the Calmar Steamship Corporation as chairman. Meetings of this committee are held every second Friday (or more frequently if desired) and the lighterage situation reviewed. Any steamship line having delayed lighters on hand is asked to have its representative appear before the committee and explain the circumstances so that steps may be taken to relieve the situation. The results of the work of this committee have been very satisfactory. Whereas prior to its organization, it was not uncommon to have 150 lighters held over 48 hours each day, today, although the volume of lighterage freight has increased approximately 65 per cent, the number of lighters held over 48 hours seldom exceeds 80. Incidentally, the tonnage per lighter has increased from 25 to 35 per cent, in part because of this arrangement.

"At some ports, the facilities are such that it is not always possible to hold a proper 'bank' of loaded cars to accommodate the volume of daily unloadings. Recognizing the importance, not to say the necessity, of maintaining such a 'bank', particularly in the case of war materials, an item has been incorporated in the tariffs of all roads serving Atlantic and Gulf ports, providing that export or coastal freight may be held out of a port and the same rules, regulations and charges made applicable thereto as would be the case if the cars were held at the port itself.

"An advisory committee, consisting of foreign freight traffic officers of roads serving North Atlantic ports has been formed, which meets upon the call of the manager. Local committees have also been set up at several ports where such action seemed advisable. These committees have been very helpful.

"Although there have been a series of interruptions to the flow of export traffic because of the war in Europe—first to Denmark, then in succession to Norway, Holland, Belgium, Italy and France—these have caused no embarrassment to the movement of other traffic at American ports. Each of these interruptions made it necessary for a considerable volume of freight in transit at Atlantic and Gulf ports to be stored or directed to other destinations."

Nicaragua Puts Government Road on Permanent Basis

The president of Nicaragua, by authority granted him under existing legislation, has set up the government-owned Pacific Railway of Nicaragua on a permanent organization basis. Although the government reassumed direct operating control of the line in 1920 (it had been "farmed out" to American banking firms for some years and was operated by the J. G. White Corporation of New York), it has operated the line on a temporary basis without giving it specific status in the hierarchy of government organizations.

The new law upon which the president has acted places control of the road under an Administrator-General named by and directly responsible to the president and who must obtain prior authorization for purchases exceeding $400 and for the introduction of major policies. The budget and accounts of the railroad will be kept separate from other public accounts and the government budget and will be subject to review by a special auditor. Present employees wages and agreements will be retained. The government is to receive a 50 per cent discount on all transportation rates—both passenger and freight—and free passes will be given to certain high-ranking government officials.

The Pacific is the only common carrier railroad in the country. It operates 213 route miles of 3-ft. 6-in. gage track and owns 24 locomotives, 62 passenger-train cars and 247 freight cars.

Equipment and Supplies

Frisco's 1941 Budget Approved

The 1941 budget of the St. Louis-San Francisco calling for the expenditure of $1,114,853 has been approved by the federal district court. Of this amount, $372,693 is for rails and track accessories and $62,000 is for two 44-ton Diesel-electric switching locomotives.

Missouri Pacific Authorized to Purchase Two Trains

The Missouri Pacific has been authorized by the federal district court to purchase two Diesel-electric streamlined trains for operation between St. Louis, Mo., and Denver, Colo. Each train will consist of a 4,000 hp. Diesel-electric locomotive, a combination mail and baggage car, two coaches, a combination diner and lounge car, a baggage-express car and a mail storage car.

Pacific Fruit Express To Spend $15,500,000

The Pacific Fruit Express, subsidiary of the Union Pacific and Southern Pacific, has undertaken a 1941 improvement program involving an expenditure of about $15,500,000. Included is an order for 1,000 new refrigerator cars placed with the Pacific Car & Foundry Co. at a total cost of approximately $4,500,000. Inquiry for this equipment was reported in the *Railway Age* of October 19, 1940. The company's maintenance program for the first half of 1941, involving the rebuilding and repair of more than 3,000 refrigerator cars at estimated cost of $11,000,000, provides for the reconstuction of 2,000 cars with entirely new bodies and latest type air brakes, heavy repairs to 1,000 cars and lighter repairs to others.

IRON AND STEEL

THE CHICAGO, BURLINGTON & QUINCY has ordered 39,000 tons of rails, 11,500 tons of 131-lb. and 27,500 tons of 112-lb., dividing the order as follows: 17,000 tons to the Carnegie-Illinois Steel Corporation, 17,000 tons to the Colorado Fuel & Iron Corporation and 5,000 tons to the Inland Steel Company.

LOCOMOTIVES

THE NEW YORK, NEW HAVEN & HARTFORD is inquiring for ten 600-hp. Diesel-electric switching locomotives.

FREIGHT CARS

THE VIRGINIAN is inquiring for 100 hopper cars of 50 tons' capacity.

THE LOUISVILLE & NASHVILLE is expected to purchase 50 covered hopper cars of 70 tons' capacity.

THE CHICAGO, BURLINGTON & QUINCY has ordered 250 70-ton ballast cars from the American Car & Foundry Co. The

company is reported to be contemplating further large freight car purchases.

THE LAKE SUPERIOR & ISHPEMING is inquiring for 100 ore cars of 50 tons' capacity.

THE BETHLEHEM STEEL COMPANY is reported to be contemplating the purchase of 100 gondola cars for company's Maryland plant.

SIGNALING

THE PITTSBURGH & LAKE ERIE has placed an order with the Union Switch & Signal Company covering the apparatus necessary for modernizing the automatic block signaling system over its entire line between McKeesport, Pa., and New York Central Junction at Youngstown, Ohio. This program, which provides for the installation of searchlight signals on this 79 miles of the line, involves the respacing of the signals to meet present-day requirements. A four-track line extends over half of this territory and double or three track lines over the other half, and on all, the new signaling will be controlled by coded track circuits which eliminate the use of line wires. The apparatus involved includes approximately 200 searchlight signals, 1,650 relays and code units, 1,175 rectifiers and transformers, and 75 relay houses and cases. These instrument cases and relay housings will be factory-wired by the Union Company before delivery, while the field installation work will be carried out by the P. & L. E.'s signal department.

Construction

GREAT NORTHERN.—A contract has been awarded the Charles A. Power Company, Spokane, Wash., for 300,000 cu. yd. of grading at the Hillyard (Wash.) yards in connection with considerable yard improvements at that point. Other work, which will be done by railroad forces, will consist of the relocation of 11,300 ft. of the main track to the northerly edge of the right of way, rearrangement and extensions of yard tracks with necessary crossovers, signal changes, etc., and the rearrangement of icing facilities. The total cost of the improvements is estimated at $355,000.

PENNSYLVANIA.—The Pennsylvania Public Utility Commission has approved plans calling for alteration, relocation and reconstruction of eight grade crossings in the borough of West Brownsville, Pa. The estimated cost of the improvement totals $67,485.

WAYNESBURG & WASHINGTON.—Acting on this company's request, Division 4 of the Interstate Commerce Commission has dismissed its application in Finance Docket No. 11757 requesting authority to construct a line between Hackney, Pa., and a connection with a line of the Pittsburgh, Cincinnati, Chicago & St. Louis.

Supply Trade

Bruce M. Jones has been appointed sales engineer of the **Buffalo Brake Beam Company** with headquarters in New York.

R. F. Goggin has been appointed district manager, transportation department, New England district, of the **General Electric Company.**

J. H. Schermerhorn has been elected president of the **Joseph Dixon Crucible Company,** Jersey City, N. J., succeeding the late **George T. Smith,** whose obituary was reported in the *Railway Age* of January 11.

M. C. Bellamy, sales engineer for the **Timken Roller Bearing Company** at Seattle, Wash., has been promoted to district manager of industrial bearing and steel sales for the Seattle territory. Mr. Bellamy graduated from Purdue University and spent several years in other industrial work before joining The Timken Roller Bearing Company in 1928. After working in the plant and engineering department for two years, he was appointed sales engineer in 1930.

Grant B. Shipley, chairman and a director of the **Wood Preserving Corporation,** Pittsburgh, Pa., has sold his interest in this company to the Koppers Company, which will operate the Wood Preserving Corporation as one of its divisions. Mr. Shipley has been engaged in

Grant B. Shipley

the wood preserving business for 35 years, during which time he has organized a number of companies including the Pittsburgh Wood Preserving Company, the Century Wood Preserving Company, the Ohio Wood Preserving Company, the Michigan Wood Preserving Company, the New England Wood Preserving Company, the Maryland Wood Preserving Company, the Delaware Wood Preserving Company and the Carolina Wood Preserving Company. Throughout his career he has contributed much to the development of processes and equipment for treating wood more efficiently and has acted as consultant in the design of many of the major plants constructed in the United States in recent years.

Mr. Shipley was born at Coulterville, Cal., on April 27, 1880. From 1898 to 1901 he was a machinist apprentice in a general repair shop and from the latter date until 1905 he was employed as a draftsman, machine designer and chief draftsman on marine equipment, mining machinery and gold and silver mining machinery and plants. During three years of this period he was also an instructor of marine design and mechanical drawing at the Humboldt Evening Polytechnical School at San Francisco. In 1905 he entered the employ of the Allis-Chalmers Manufacturing Company, Milwaukee, Wis., and during the next six years was chief draftsman and later chief engineer in charge of drawing, designing and constructing mining and timber preserving plants. From 1911 to 1932 he has been associated, as an executive and operating officer, with various tie, coal and timber treating companies and has also been a practicing, designing and consulting engineer for timber treating and other plants.

After leaving the employ of Allis-Chalmers, he organized the Pittsburgh Wood Preserving Company, occupying the position of president. In 1923 he organized the Century Wood Preserving Company as president, and in October, 1930, became associated with the Koppers Company in organizing the Wood Preserving Corporation to consolidate and co-ordinate the 22 timber treating plants of the Ayer & Lord Tie Company, Chicago, the National Lumber & Creosoting Company, Texarkana, Tex., and the Century Wood Preserving Company. At that time Mr. Shipley was also made president of the Wood Preserving Corporation and the National Lumber & Creosoting Company. In September, 1933, he was elected chairman of the board of the Wood Preserving Corporation. In 1922 Mr. Shipley also became associated with the American Nickel Corporation, which later became the American Mond Nickel Company with Mr. Shipley as president and chairman, at which time he was also made a director of the Mond Nickel Company of England and a member of its executive committee in Canada. When the Mond interests were taken over by the International Nickel Company, Ltd., of Canada in 1929, he was elected a director and a member of the executive committee of the latter company. Mr. Shipley is still associated with Koppers Company of Pittsburgh as a consultant.

Dewey A. White, sales engineer for the **Okonite Company** at Atlanta, Ga., has been appointed manager of a new district office at 1212 Comer building, Birmingham, Ala. The new district, known as the South Central territory, will comprise the states of Tennessee, Alabama, Mississippi and Louisiana.

C. B. Jahnke, whose election to the presidency of the **Cooper-Bessemer Corporation** to succeed **B. B. Williams,** now chairman of the board, was reported in the *Railway Age* of January 11, was graduated from the University of Cincinnati in 1910. He then worked with Fairbanks, Morse & Co. for 21 years, first as chief engineer and later as works manager of the Beloit, Wis., plant. He later served as director of engineering with same com-

pany. In 1931 he joined the International Harvester Company in its program of developing Diesel-engines for farm machinery. Four years later he became affiliated with the Cooper-Bessemer Corporation,

C. B. Jahnke

serving 2½ years as chief engineer and since July, 1937, as vice-president. Mr. Williams, who resigned the presidency to become chairman of the board, has been affiliated with the Cooper-Bessemer Corporation and its predecessor, the C. & G. Cooper Co. for 40 years. In 1900 he joined the Cooper Company as a sales engineer, and was appointed secretary in 1912. Four years later he became vice-president and

B. B. Williams

general manager and in 1920 was elected president, a position he retained when the Cooper Company was merged with Bessemer in 1929 to form the present corporation. Mr. Williams will retain an executive voice in the company's affairs and especially in shaping its broad policies.

TRADE PUBLICATION

COAL, SAND AND CINDER HANDLING EQUIPMENT.—The Ross & White Co., Chicago, has published bulletin No. 40, a booklet of eight pages describing the locomotive coal, sand and cinder handling equipment built by this company. The bulletin is attractively printed in color and profusely illustrated with photographs and working drawings of Red Devil engine coalers, N. & W., locomotive cinder plants, sand storage towers and automatic steam sand driers.

Financial

ATCHISON, TOPEKA & SANTA FE-COLORADO & SOUTHERN.—*Joint Operation.*—These companies have been authorized by Division 4 of the Interstate Commerce Commission to continue a 40-year-old agreement under which they have made joint use of each other's lines between Denver, Colo., and Pueblo.

ATCHISON, TOPEKA & SANTA FE—CHICAGO, BURLINGTON & QUINCY—COLORADO & SOUTHERN—CHICAGO, ROCK ISLAND & PACIFIC.—*Trackage Rights.*—These roads have applied to the Interstate Commerce Commission for authority to execute an agreement for operation under trackage rights over a 7-mile section of the Denver & Intermountain between Denver, Colo., and Remaco. The trackage rights would permit the applicants to serve a large ammunition plant to be erected by the federal government and operated by the Remington Arms Company. Issuing a hearing notice at the same time it made the application public, the commission set the case for hearing at Washington, D. C., on January 22.

CENTRAL OF GEORGIA.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon a line extending from Statesboro, Ga., to Metter, 19.5 miles.

CHICAGO & NORTH WESTERN.—*Reorganization.*—Division 4 of the Interstate Commerce Commission has denied a petition of the debtor company asking that it fix a maximum limit of allowance for expenses for its appeal to the United States Circuit Court of Appeals from a decision of the District Court approving the commission's final plan of reorganization for this company under section 77 of the Bankruptcy Act.

"Upon consideration of all the foregoing arguments and points of view," writes the majority of Division 4, "we have reached the conclusion that the principal objections to our fixing of a maximum limit are valid and should prevail. Facilitation of appeals from adverse decisions in the interest solely of particular parties is not a proper burden on the debtor's estate. A party dissatisfied with the plan of reorganization approved by the commission and the United States District Court is not entitled to be assured in advance that the estate will bear the expense of its appeal."

Commissioner Porter dissented, saying that he felt the question of making any allowance out of the debtor's estate lay wholly within the discretion of the court and that Division 4 should fix a maximum limit within which the allowance should be made, if the judge deemed it proper.

DULUTH, SOUTH SHORE & ATLANTIC.—*Ratification of Trustee.*—Division 4 of the Interstate Commerce Commission has ratified the appointment of Sigurd Ueland as co-trustee of this company in place of James L. Homire, who has resigned.

JAY STREET CONNECTING.—*Acquisition.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to acquire and operate certain freight station, car float, and lighterage facilities and routes heretofore owned and operated by the Jay Street Terminal, including 19,182 ft. of track in Brooklyn, N. Y. The routes involved are between the New Jersey shore and Brooklyn, N. Y., in New York harbor.

LOUISVILLE & NASHVILLE.—*Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon a branch line extending from O'Fallon Junction, Ill., to O'Fallon, six miles.

MISSOURI SOUTHERN.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon its entire line extending from Leeper, Mo., to Bunker, 53.8 miles.

NORTHERN PACIFIC.—*Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon its co-called Mendota branch extending from Wabash, Wash., to Mendota, 8.8 miles.

PENNSYLVANIA.—*Equipment Trust Certificates.*—This road has awarded an issue of $11,925,000 of 1¾ per cent equipment trust certificates, Series L, to a group headed by the First Boston Corporation, on a bid of 100.043, representing an interest cost to the carrier of 1.744. Certificates were reoffered to the public on January 16 at prices to yield from 0.25 to 2.15.

ST. LOUIS SOUTHWESTERN.—*Abandonment by the Stephenville North & South Texas.*—Acting on a recent petition of Berryman Henwood, trustee of the St. Louis Southwestern of Texas, the Interstate Commerce Commission has authorized him to abandon operation of the line of the Stephenville North & South Texas extending from Gatesville, Tex., to Hamilton, 32.7 miles. The commission on August 19, 1940, had authorized the abandonment of operation of the line by the Cotton Belt of Texas, but after a protest by the city of Hamilton, Tex., it had indefinitely postponed the operation of the order pending the promised development of new traffic. Recently the trustee of the Cotton Belt of Texas asked the commission to permit the abandonment in view of his allegation that the promised traffic had not materialized.

SOUTHERN PACIFIC.—*Abandonment by the Arizona Eastern.*—The Arizona Eastern and the Southern Pacific, respectively, have asked the Interstate Commerce Commission for authority to abandon a line and the operation of a line consisting of that portion of the so-called Tempe branch, extending from West Chandler, Ariz., to the end of the branch, 0.9 mile.

SOUTHERN PACIFIC.—*Repayment of Loans.*—The Southern Pacific reported on January 9 that it has repaid $2,000,000 of its bank debt, reducing the amount to $18,000,000 which will mature May 1, 1941. In addition it has repaid $1,800,000 of Reconstruction Finance Corporation loans maturing May 1, 1941. The balance due that date is now $10,000,000. An addi-

tional $8,000,000 of R. F. C. loans mature April 28, 1942.

SOUTHERN PACIFIC.—*Acquisition of the Waco, Beaumont, Trinity & Sabine.*—Division 4 of the Interstate Commerce Commission has reopened and set for further hearing in Houston, Tex. before Examiner Schutrumpf on February 3, Finance Docket No. 8393 in which the Waco, Beaumont, Trinity & Sabine recently asked the commission to amend its order authorizing the Southern Pacific to acquire control of the St. Louis Southwestern by requiring the Southern Pacific to take over and acquire, under suitable guarantees as to title and freedom from debt, at a reasonable price, the line of the Waco company extending from Weldon, Tex., to Livingston, 41.6 miles.

TEXAS & PACIFIC.—*Operation.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to operate, under trackage rights, over a line of the Louisiana & Arkansas between Torras, La., and Simmesport, eight miles.

TEXAS ELECTRIC.—*Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon its Corsicana branch, extending from Dallas, Tex., to the end of the line at Corsicana, 51.8 miles.

UNION PACIFIC-SOUTHERN PACIFIC.—*Abandonment by the Los Angeles & Salt Lake and Acquisition by the Pacific Electric.*—The Los Angeles & Salt Lake and the Union Pacific, respectively, have asked the Interstate Commerce Commission for authority to abandon the Rialto branch and the operation thereof, extending from Rancho Jurupa, Calif., to Rialto, 4.8 miles. At the same time the L. A. & S. L. and the U. P. have asked authority to sell and the Pacific Electric has asked authority to purchase a portion of the Rialto branch in Rialto, Calif., 1,232 ft., and to use jointly with the U. P. certain small segments of the branch, also in Rialto.

WAYNESBURG & WASHINGTON.—*Abandonment.*—Acting on this company's request, Division 4 of the Interstate Commerce Commission has dismissed its application in Finance Docket No. 12121 requesting authority to abandon a line extending from Hackney, Pa., to Washington.

WESTERN MARYLAND.—*Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon a portion of a branch line extending from Oakmont, W. Va., to the end of the branch at Emoryville, 2.3 miles.

Average Prices of Stocks and Bonds

	Jan. 14	Last week	Last year
Average price of 20 representative railway stocks..	30.96	30.02	32.57
Average price of 20 representative railway bonds..	64.20	62.36	58.37

Dividends Declared

Louisville, Henderson & St. Louis.—Preferred, $2.50, semi-annually, payable February 15 to holders of record February 1.

Pittsburgh, Bessemer & Lake Erie.—75¢, semi-annually, payable April 1 to holders of record March 15.

Railway Officers

EXECUTIVE

S. A. Dobbs, executive general agent for the Gulf, Mobile & Ohio at New Orleans, La., has been promoted to assistant vice-president, a newly created position, with headquarters at St. Louis, Mo.

FINANCIAL, LEGAL AND ACCOUNTING

W. W. Middleton, deputy comptroller of the Gulf, Mobile & Ohio, with headquarters at Mobile, Ala., has retired because of ill health. **V. E. Deimel** has been appointed auditor of joint facilities.

Henry D. Sheean, whose retirement on January 1 as general solicitor of the Baltimore & Ohio Chicago Terminal, with headquarters at Chicago, was announced in the *Railway Age* of January 11, was born at Galena, Ill., on November 17, 1875, and graduated from the University of Illinois in 1899. He engaged in the general practice of law until 1916 when he was appointed general attorney for the B. & O. C. T., and a short time later he was appointed general solicitor, serving in this capacity and also as division attorney for the Baltimore & Ohio until his retirement on January 1.

Arthur K. Atkinson, treasurer for the receivers of the Wabash, with headquarters at New York, has been promoted to chief financial and accounting officer, a newly created position. **James W. Newell,** chief accounting officer, with headquarters at St. Louis, Mo., retired because of ill health on January 1. **Arthur B. Twyman,** general auditor, has been appointed comptroller, and **William Rector Eastman,** assistant general auditor has been appointed assistant comptroller with headquarters as before at St. Louis.

Mr. Newell was born at Plattsmouth, Neb., on May 29, 1875, and attended Nebraska Wesleyan University. He entered railway service on June 18, 1895, as a messenger on the Chicago, Burlington & Quincy, later becoming a telegraph operator, station agent and auditor of freight accounts. In 1917 he went with the Lehigh Valley as auditor of revenues and a year later, under the United States Railroad Administration, he was appointed comptroller. In 1920 Mr. Newell was appointed general auditor of the Wabash, later being elected successively vice-president and comptroller, and vice-president in charge of accounting, with headquarters as before at St. Louis. In 1928 he was elected also a vice-president of the Ann Arbor (controlled by the Wabash) and in 1932 he was appointed chief accounting officer, the position he held until his retirement.

OPERATING

C. J. Fitzpatrick, assistant trainmaster on the Illinois Central at Chicago, has been promoted to trainmaster at Freeport, Ill., succeeding **Francis W. Dougan,** whose death on December 12 is announced elsewhere in these columns.

W. A. Swindell, trainmaster of the Atlanta division of the Nashville, Chattanooga & St. Louis, has been promoted to assistant superintendent of that division, a newly created position, with headquarters as before at Atlanta, Ga., and **T. J. Hale** has been appointed trainmaster of the Atlanta division, succeeding Mr. Swindell. **John Templeton** has been appointed trainmaster of the Nashville and the Paducah & Memphis divisions, with headquarters at Nashville, Tenn.

C. A. Clements, assistant general manager on the Missouri Pacific, formerly in charge of labor and personnel, has been assigned jurisdiction over yard and terminal operations, with headquarters as before at St. Louis, Mo. **H. E. Roll,** director of terminal operations, has been appointed chief personnel officer, with headquarters at St. Louis, and the position of director of terminal operations has been abolished. **M. C. Coad,** special assistant, personnel, has been appointed assistant chief personnel officer.

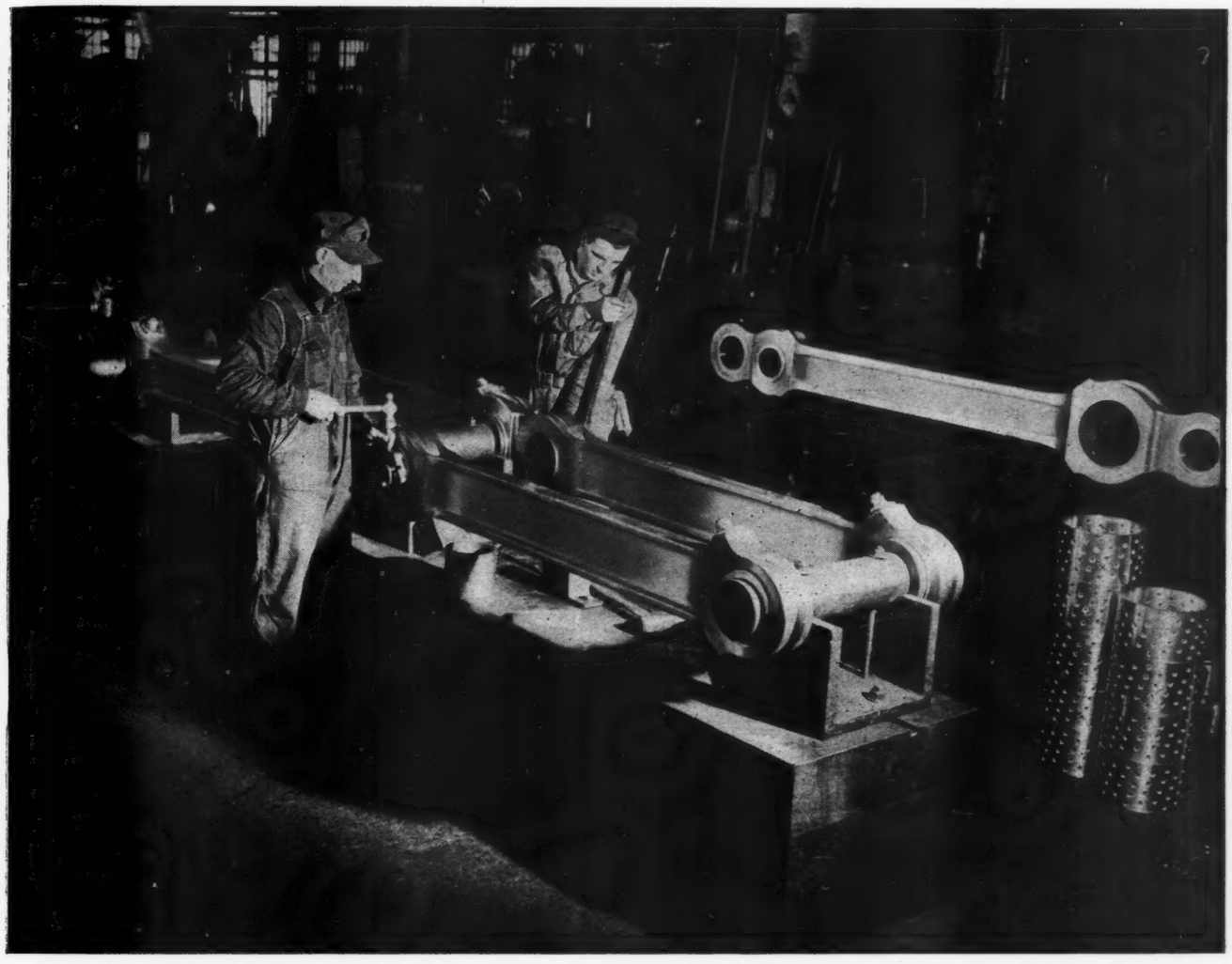
P. W. Neff, superintendent of the Pan Handle division of the Pennsylvania, with headquarters at Pittsburgh, Pa., has been appointed superintendent of the Philadelphia Terminal division, with headquarters at Philadelphia, Pa., succeeding **F. L. Dobson,** whose promotion to fuel purchasing agent, with the same headquarters, is announced elsewhere in these columns. **J. S. Gillum,** superintendent of the Buffalo division, with headquarters at Buffalo, N. Y., has been transferred to Pittsburgh, replacing Mr. Neff, and **J. A. Schwab,** superintendent of the Delmarva division, with headquarters at Cape Charles, Va., has been transferred to Buffalo, relieving Mr. Gillum. **H. G. Hostetter** has been appointed superintendent at Cape Charles, succeeding Mr. Schwab.

Pablo M. Hernandez, former division superintendent on the National Railways of Mexico, has been appointed assistant general manager. **Manuel S. Mayagoita,** former general manager, has been appointed general superintendent of transportation. **Alberto Garduno C.,** former assistant general manager, has been appointed superintendent of the Southeastern division, with headquarters at Tierra Blanca, Ver. **Juan C. Garcia,** former general superintendent of transportation, has been appointed superintendent of the Queretaro division, with headquarters at Mexico City. **A. M. Bribiesca** has been appointed superintendent of the Mexico division, with headquarters at Mexico City, and **David Garibaldi** has been appointed superintendent of the Pacific division, with headquarters at Acambaro, Gt. **Raul Nevarez,** former chief clerk to the general manager, has been appointed general assistant in charge of personnel. These changes are all a part of the reorganization abolishing the Worker's Administration and putting the National Railways of Mexico under government control.

Walter Wicker, whose promotion to superintendent of the Union Railway Com-

Continued on next left-hand page

RODS ARE "TAILOR MADE"



. . . AT LIMA

The correct fit of rods is of vital importance to the future maintenance of the locomotive. That is why Lima fits each set of rods to jigs of the type illustrated above. This eliminates fitting when the rods are applied and assures accurate interchangeability of rods on the same group of locomotives.

It is by attention to such details as these that Lima has earned its reputation as a builder of sound, low-maintenance locomotives.

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED **INCORPORATED, LIMA, OHIO**

pany (controlled by the Missouri Pacific), with headquarters at Memphis, Tenn., was announced in the *Railway Age* of January 4, was born at Huntsville, Mo., on July 19, 1892, and entered railway service in 1906 on the Kansas City Southern. In 1909 he went with the Union Pacific as a switchtender at Cheyenne, Wyo., later serving as an engine hostler and switchman and brakeman. In February, 1912, he went with the Illinois Central as a switchman and was later advanced successively to yardmaster and trainmaster. On October 15, 1926, Mr. Wicker entered the service of the Missouri Pacific as terminal trainmaster at North Little Rock, Ark., and on September 1, 1928, he was promoted to assistant superintendent. He was advanced to superintendent at Nevada, Mo., on January 1, 1930, and on June 26, 1932, he was appointed assistant superintendent of the Little Rock terminal. Mr. Wicker was transferred to McGehee, Ark., on August 1, 1933, where he was located until his recent promotion, effective January 1.

B. F. Wells, assistant superintendent of the Wyoming division of the Union Pacific, with headquarters at Green River, Wyo., has been promoted to superintendent of the Nebraska division, with headquarters at Omaha, Neb., succeeding **F. P. Flesher,** who has been appointed assistant superintendent, with headquarters at Gering, Neb. **George J. Mulick,** assistant superintendent at North Platte, Neb., has been promoted to superintendent of the Colorado division, with headquarters at Denver, Colo., succeeding **A. L. Coey,** who has been promoted to the staff of the assistant to the president at Omaha. Mr. Mulick was born at Omaha on October 19, 1903, and entered railway service on August 16, 1923, as a switchman on the Union Pacific at Omaha. On February 2, 1928, he was promoted to assistant yardmaster at that point and on August 24, 1934, he was appointed assistant general yardmaster. In May, 1935, he was advanced to trainmaster at Marysville, Kan., and on December 1, 1937, he was transferred to North Platte, Neb. One month later, Mr. Mulick was transferred to Laramie, Wyo., and on July 5, 1939, he was promoted to assistant superintendent at Green River, Wyo. On March 4, 1940, he was transferred to Omaha and on October 8, 1940, he was transferred to North Platte.

E. H. Bailey, trainmaster on the Union Pacific at Grand Island, Neb., has been promoted to assistant superintendent at North Platte, Neb., succeeding Mr. Mulick, and **M. M. Shappell,** assistant chief dispatcher at Cheyenne, Wyo., has been promoted to trainmaster at Grand Island, replacing Mr. Bailey. **J. H. Gildea,** yardmaster at Green River, has been advanced to assistant superintendent at that point, relieving Mr. Wells. **E. L. Chantry** has been appointed trainmaster at Pocatello, Idaho, with jurisdiction over the Seventh and Eighth subdivisions.

W. A. Roberts, whose promotion to superintendent of telegraph of the Texas & Pacific, with headquarters at Dallas, Tex., was announced in the *Railway Age* of January 11, was born at Gilmer, Tex., on March 12, 1886. From 1901 to June 1, 1906, Mr. Roberts served as lineman helper, lineman, electrician and wire chief for the Gilmer Telephone Company at Gilmer. On the latter date, he became

W. A. Roberts

wire chief for the Roberts Telephone Company, Abilene, Tex., and later for the Lindsay Telephone Company at Tyler, Tex. From March 16, 1909, to March 16, 1912, he served as an inspector for the Western Union Telegraph Company at Dallas, Tex., and from 1912 to 1914, he was in the automobile business at Dallas. He entered railway service on August 24, 1914, as electrical supervisor for the Texas & Pacific at Dallas, the position he held until his recent promotion, which was effective January 1.

Harry G. Hostetter, passenger trainmaster of the Long Island, with headquarters at Jamaica, N. Y., has been appointed superintendent of the Delmarva division of the Pennsylvania, with headquarters at Cape Charles, Va., effective January 16. **Paul W. Neff,** superintendent of the Panhandle division of the Pennsylvania, with headquarters at Pittsburgh, Pa., has been transferred to the Philadelphia Terminal division, with headquarters at Philadelphia, Pa. **J. A. Schwab,** superintendent of the Delmarva division at Cape Charles, has

Harry G. Hostetter

been transferred to the Buffalo division, to succeed **J. S. Gillum,** who has been transferred to the Panhandle division. **Sidney Kerl,** assistant trainmaster on the Long Island, succeeds Mr. Hostetter as passenger trainmaster.

Mr. Hostetter was born at Bachmanville, Pa., in 1895, and attended high school in Lawn, Pa. He entered railroad service as a clerk on the old Cornwall & Lebanon (now Pennsylvania) at Lebanon, Pa., in 1911 and served as operator, station agent, train dispatcher, car record clerk, and in other capacities on this line until it became a part of the Pennsylvania system in 1917. During 1917 and 1918 he served as assistant train dispatcher on the Lebanon division of the Pennsylvania and between 1918 and 1929 as train dispatcher, block operator, and clerk on the Philadelphia division. In 1929 he became assistant trainmaster of the Baltimore division; in 1930 he was transferred to the Atlantic division and in 1933 to the Pennsylvania-Reading Seashore Lines. Mr. Hostetter was promoted to trainmaster of the Pennsylvania-Reading Seashore Lines in August, 1933, and was transferred to the Long Island in November, 1936, as passenger trainmaster, the position he held until his recent appointment.

O. C. Lott, whose appointment as superintendent of the Wheeling division of the Baltimore & Ohio at Wheeling, W.

O. C. Lott

Va., was reported in the *Railway Age* of January 11, entered the service of the Baltimore & Ohio on July 12, 1923, at Willard, Ohio. Mr. Lott was appointed yard brakeman on September 24, 1923; yard helper on August 1, 1924; general yardmaster on October 17, 1924; and yardmaster on May 16, 1925. On September 12, 1927, Mr. Lott went to Haselton, Ohio, as general yardmaster and on July 23, 1928, was appointed assistant terminal trainmaster at Willard. On September 1, 1928, he became night general yardmaster at Youngstown, Ohio, becoming day general yardmaster two months later. He became terminal trainmaster at Youngstown in January, 1929; general yardmaster, same station, on March 1, 1929; terminal trainmaster at South Chicago on October 16, 1929, and day general yardmaster on July 5, 1931, being transferred to Haselton on August 1, 1932. On October 3, 1932, Mr. Lott was appointed general yardmaster at Newark, Ohio; on February 1, 1934, terminal trainmaster at Youngstown; on June 1, 1935, terminal trainmaster at Willard Yard and on February 25, 1936, trainmas-

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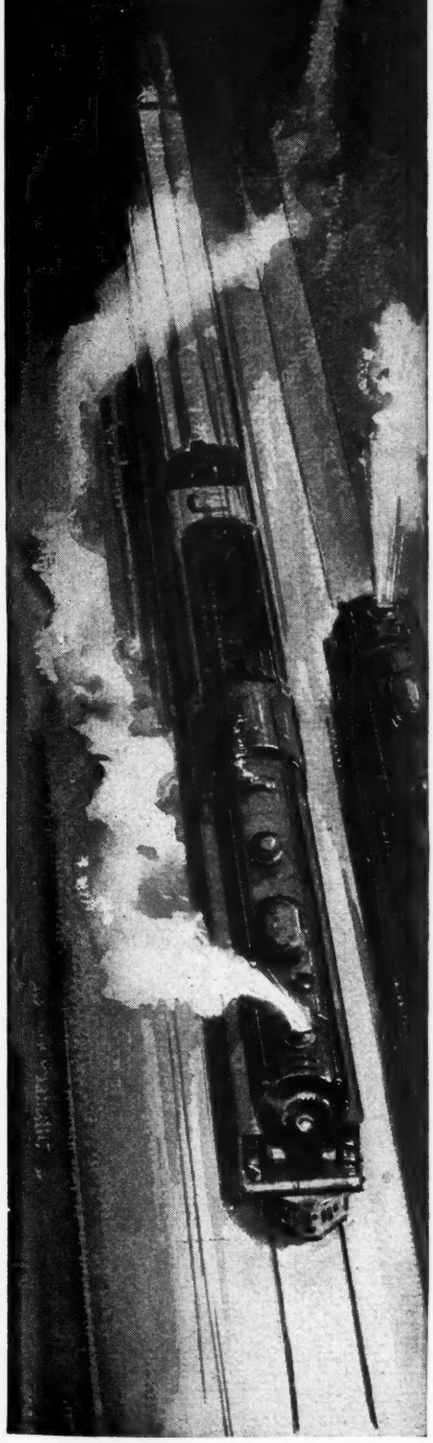
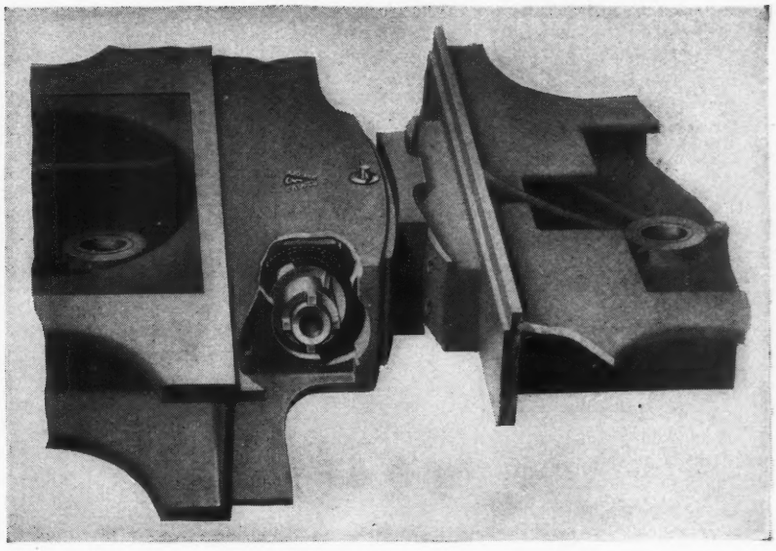
ESSENTIAL TO HIGH SPEED OPERATION OF MODERN LOCOMOTIVES





Modern power, with long overhang over the trailing truck, must have freedom of buffer movement in every direction, and full faced contact of the buffer surfaces at all times.

It is absolutely necessary on curved track, and safer at high speeds.

Franklin E-2 Radial Buffer provides this universal movement and full contact of the buffer surfaces. It also provides high frictional resistance to compression that effectively dampens oscillation between engine and tender and eliminates lost motion and subsequent destructive shocks to drawbars and pins.

Franklin E-2 Radial Buffer effectively reduces locomotive maintenance costs and adds immeasurably to the safety of high speed operation of modern locomotives.

Franklin Compensator and Snubber, twin of the Radial Buffer, is equally essential for that other important job of protecting the foundation of the locomotive.

No locomotive device is better than the replacement part used for maintenance. Genuine Franklin repair parts assure accuracy of fit and reliability of performance.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

ter at Akron. Mr. Lott was appointed assistant superintendent at Pittsburgh on March 16, 1939, the position he held until his recent appointment as superintendent of the Wheeling division, effective January 1.

TRAFFIC

R. E. Wright, district freight agent, New York, Ontario & Western, has been appointed assistant general freight agent, in charge of on-line solicitation, with headquarters at Middletown, N. Y. **A. A. Stone,** district freight agent at Oneida, N. Y., has been appointed general agent at Buffalo, N. Y.

S. S. Hankis, general agent for the Chicago, Burlington & Quincy at Pittsburgh, Pa., has been promoted to general freight agent, a newly created position, with headquarters at Chicago, and **L. M. Jones,** traveling freight agent at Philadelphia, Pa., has been advanced to general agent at Pittsburgh, succeeding Mr. Hankis.

F. C. Mathiott has been appointed coal freight representative of the Pittsburgh & Lake Erie, with headquarters at Pittsburgh, Pa., to succeed **R. E. Rogers,** who has been appointed coal freight agent, succeeding **J. J. Snyder.** Mr. Snyder has been appointed assistant general freight agent, with headquarters as before at Pittsburgh, to succeed **C. E. Simpson,** who has retired, effective December 31, 1940, after more than 48 years of service with the company. **E. N. Smith** has been appointed general agent at Pittsburgh.

Harry L. Lauby, traffic manager on the Union Pacific at Salt Lake City, Utah, has been promoted to eastern traffic manager, a newly created position, with headquarters at New York, and **Bernard W. Hanson,** general agent, freight department, at Salt Lake City, has been promoted to traffic manager at that point, succeeding Mr. Lauby. **Donald H. Voltz,** general agent at Cincinnati, Ohio, has been transferred to Salt Lake City, replacing Mr. Hanson, and **James R. Livsey,** traveling freight and passenger agent at Cincinnati, has been advanced to general agent at that point, relieving Mr. Voltz.

Frank A. Bell, whose promotion to general freight agent on the Atchison, Topeka & Santa Fe, with headquarters at Los Angeles, Cal., was announced in the *Railway Age* on January 4, was born in Los Angeles and graduated from St. Vincents College in that city in 1898. He entered railway service the same year as a clerk on the Santa Fe at Los Angeles, and transferred to San Francisco, Cal., in 1901, being promoted through various positions to city freight agent and later to chief clerk, general agent and assistant general freight agent. During the first World War, Mr. Bell was associated with various steamship, warehouse and waterfront activities in San Francisco, later serving as general agent for the Ward Steamship Line and general agent for the Fort Smith & Western. In 1921 he returned to the Santa Fe as city freight agent at San Francisco and later served as division freight and passenger agent at Stockton, Cal., and division freight agent at Oakland, Cal. In 1930 Mr. Bell was transferred to Los Angeles and in 1936 he was promoted to assistant general freight agent, the position he held until his promotion January 1.

William Fitzgerald, whose promotion to general freight traffic manager of the Chesapeake & Ohio at Richmond, Va., was reported in the *Railway Age* of January 11, was born on March 25, 1871, at St. Louis, Mo. Mr. Fitzgerald entered railroad service in 1887 as stenographer in the secret service department of the St. Louis, Iron Mountain & Southern (now Missouri Pacific) at St. Louis, serving in this department for several months, then being transferred to the office of the general superintendent. In 1888 he became stenographer in the general agent's office of the Atchison, Topeka & Santa Fe at St. Louis, then serving as contracting freight agent for that road, the St. Louis-San Francisco and the Chicago, Burlington & Quincy, successively. Mr. Fitzgerald then served with the latter road as chief

William Fitzgerald

clerk in the general freight department at St. Louis, general agent in the freight and passenger departments at Dallas, Tex.; general agent at Hannibal, Mo.; and assistant general freight agent at St. Joseph, Mo. From 1906 to 1910 he was general freight agent for the Chicago, Cincinnati & Louisville (now Chesapeake & Ohio), and from 1910 to 1921 he was assistant general freight agent for the Chesapeake & Ohio at Chicago and Richmond, Va. Mr. Fitzgerald served as vice-president and sales manager of the Fort Dearborn Coal Company at Chicago from 1921 to 1922, when he returned to the Chesapeake & Ohio as assistant general freight agent at Richmond. He served as general freight agent at Richmond from 1925 to April, 1934, when he was appointed freight traffic manager, the position he held until his recent promotion.

Patrick Joseph Tierney, whose appointment as freight traffic manager of the Chesapeake & Ohio at Richmond, Va., was reported in the *Railway Age* of January 11, entered railroad service at Cincinnati, Ohio, in 1901 with the Queen & Crescent Route (now part of the Southern). On May 15, 1905, he became overcharge claim investigator in the Kanawha Dispatch office of the Chesapeake & Ohio and on August 15, 1908, was appointed rate clerk of the Kanawha Dispatch, becoming chief rate clerk on September 1, 1913. When the

Patrick Joseph Tierney

Dispatch Lines were abolished by the Director General of Railroads during Federal control, Mr. Tierney was transferred to the tariff bureau at Richmond as rate and tariff clerk. He was appointed assistant to general freight agent on September 1, 1921, and on October 1, 1925, was appointed assistant general freight agent. On April 1, 1934, Mr. Tierney was appointed general freight agent and in January, 1939, became assistant freight traffic manager, the position he held until his recent appointment.

Edward F. Wonder, general western freight agent of the Lehigh Valley at Chicago, has been promoted to western freight traffic manager, with the same headquarters. **E. G. Siemon,** general agent at Minneapolis, Minn., has been promoted to assistant general freight agent at Chicago, and **H. S. Wilson** has been appointed general agent at Minneapolis, succeeding Mr. Siemon.

Mr. Wonder was born at Chicago on May 2, 1893, and entered railway service on April 1, 1910, with the Lehigh Valley Transportation Company (lake fleet sub-

Edward F. Wonder

sidiary) at Chicago, later becoming a clerk for the Lehigh Valley at that point. On January 1, 1916, he went with the El Paso & Southwestern (now part of the Southern Pacific) as a chief clerk, and during the war he served with the machine gun

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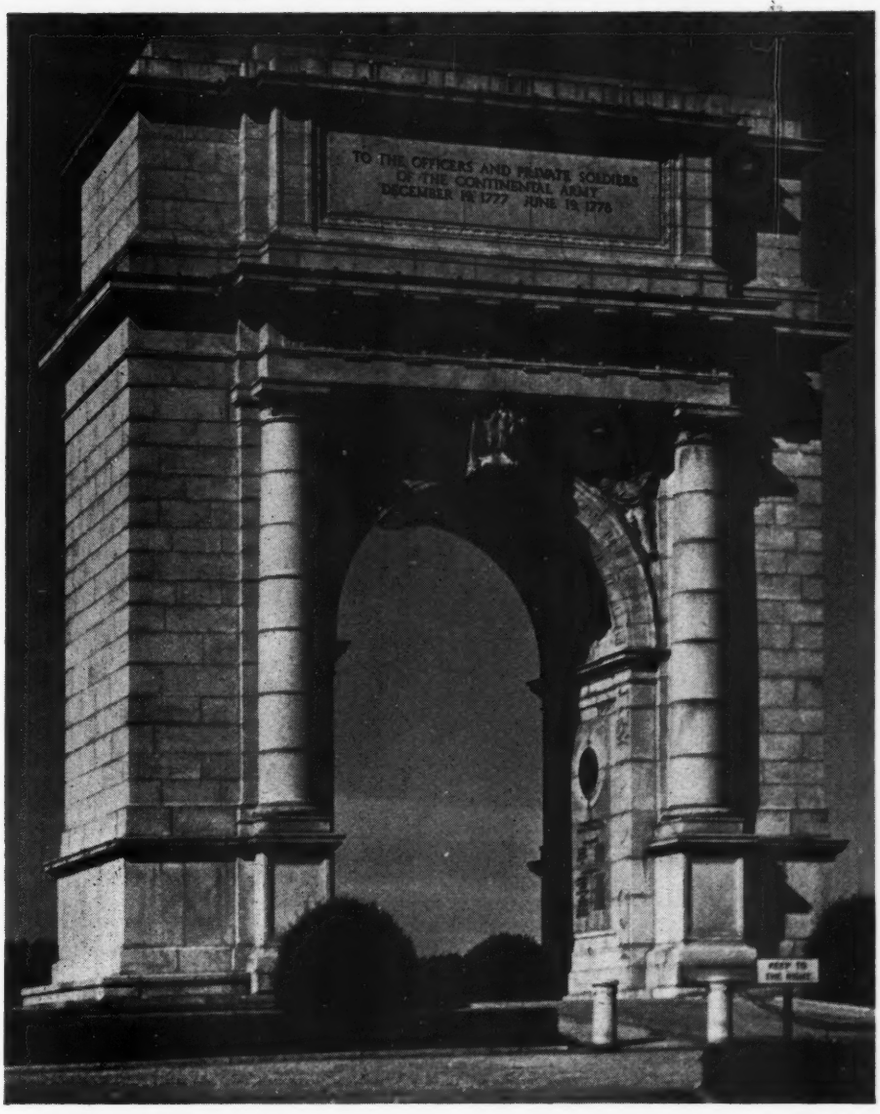
NO. 134 OF A SERIES OF FAMOUS ARCHES OF THE WORLD



VALLEY FORGE ARCH

This arch, which is a memorial to George Washington and to his officers and soldiers of the Continental Army, is located at the site of the encampment at Valley Forge, some 20 miles from Philadelphia on the Schuylkill River. It was built in 1911, costing approximately $100,000, which was defrayed by Congressional appropriation. The arch structure is 45′ wide, 18′ deep and 56′ high; built of Milford Pink Granite. Under the arches are two bronze roundels containing the coats-of-arms of the United States, the obverse, the well-known eagle and shield, and the reverse with the pyramid and eye of God, now quite familiar on our dollar bills (but then a rarity).

* * *

The Security Sectional Arch has played a leading part in providing low-cost steam transportation and fuel economy. But only when you have a complete arch, with every brick in place, can you realize the full efficiency of your arch.

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company of the 130th Infantry, 33rd Division. After the war he became a salesman for the H. J. Heinz Company, but returned to railway service in March, 1920, as commercial agent for the Lehigh Valley at Chicago. On November 1, 1926, he was promoted to general agent and on October 1, 1938, to general western freight agent, the position he held until his recent promotion, which was effective January 1.

PURCHASES AND STORES

The headquarters of **J. Arnott,** assistant purchasing agent on the Canadian Pacific at Vancouver, B. C., have been transferred to Victoria, B. C.

E. S. Ansley, chief clerk in the stationery department of the St. Louis Southwestern, has been promoted to stationer, with headquarters as before at St. Louis, Mo., succeeding **W. F. Krone,** who retired on January 1.

F. L. Dobson, acting superintendent of the Philadelphia Terminal division of the Pennsylvania, has been promoted to fuel purchasing agent, with headquarters as before at Philadelphia, Pa., succeeding **P. A. Hollar,** who has been promoted to assistant stores manager, a newly created position, with the same headquarters.

Sydney C. Welby has been promoted to general fuel agent of the Canadian National at Montreal, Que., succeeding **George H. Jenkins,** who has retired, as reported in the *Railway Age* of January 4. Mr. Welby was born in London, England, and upon graduation from Woolwich Polytechnic School, entered the British Civil Service until 1912 when he went to Canada. Mr. Welby entered the service of the Grand Trunk at Montreal in the purchasing department and at the amalgamation in 1923 with the Canadian National he was appointed chief clerk to the general fuel agent. Other promotions followed and on October 1, 1938, he became assistant general fuel agent.

Mr. Jenkins was born in Montreal in 1877 and entered the service of the Grand Trunk (Canadian National) on August 25,

Sydney C. Welby

1890, in the car mileage department. Four months later he was transferred to the purchasing and stores department, where he remained until his retirement on January 1, serving successively as chief clerk, assistant to the general fuel agent and general fuel agent.

ENGINEERING AND SIGNALING

Harry R. Younger, whose promotion to district engineer of the Alberta district of the Canadian Pacific, with headquarters

Harry R. Younger

at Calgary, Alta., was announced in the *Railway Age* of January 11, was born at Montreal, Que., on November 18, 1885, and attended Ottawa Collegiate and McGill University, Montreal, graduating in civil engineering from the latter institution in 1910. He entered railway service in April, 1906, as a rodman in the maintenance of way department of the Canadian Pacific at Ottawa, Ont., and later served between terms of school as a chainman and a transitman on construction work in Saskatchewan and in the maintenance of way department at Montreal. In 1910, Mr. Younger was appointed instrumentman and resident engineer on the location and construction of the Kootenay Central branch in British Columbia and in 1915, he was appointed assistant engineer on the Intercolonial Railway (now part of the Canadian National) at Levis, Que. In 1916 he was assigned to the Laboratory of Gauges and Standards of the Imperial Ministry. He returned to the service of the Canadian Pacific as a transitman on the Vancouver division in 1920, and in 1923, he was advanced to assistant engineer in charge of the concrete lining of the Connaught tunnel at Glacier, B. C. Two years later, Mr. Younger was promoted to roadmaster of the Revelstoke division, and in 1928 he was advanced to division engineer of the Kootenay division, with headquarters at Nelson, B. C. In the latter part of 1938, he was promoted to superintendent, with headquarters at Penticton, B. C., the position he held until his recent promotion which was effective January 1.

R. H. Washburn, assistant division engineer on the Alton, has been promoted to division engineer, with headquarters as before at Bloomington, Ill., succeeding **M. Donahoe,** who retired on January 1.

F. W. Bender, signal engineer of the Central of New Jersey, with headquarters at Jersey City, N. J., will assume the duties heretofore performed by **L. D. Shearer,** superintendent telegraph, who has been retired after 52 years of service.

C. A. Wester, roadmaster on the Union Pacific at Portland, Ore., has been promoted to general roadmaster on the Oregon division, with the same headquarters, succeeding **L. F. Racine,** whose promotion to division engineer at Portland, was announced in the *Railway Age* of January 11.

R. A. Bryson, assistant division engineer of the Birmingham division of the Louisville & Nashville at Birmingham, Ala., has been promoted to division engineer of the Nashville terminals, with headquarters at Nashville, Tenn., succeeding **Owen Crawford,** whose death on January 9 is announced elsewhere in these columns.

Robert J. Gammie, whose promotion to engineer maintenance of way of the Texas & Pacific, with headquarters at Dallas, Tex., was announced in the *Railway Age* of January 11, was born at Arkansas City, Kan., on October 12, 1889, and graduated in civil engineering from Oklahoma A. & M. College in 1910. He entered railway service on September 15, 1910, as a rodman on the Kansas City Southern at Texarkana, Tex., later being promoted to instrumentman and assistant

Robert J. Gammie

engineer. In March, 1915, he went into business for himself on bridge construction work in Chicago, and in November of that year he returned to railroad service as an instrumentman on the Chicago & Alton (now the Alton) at Bloomington, Ill. On January 1, 1916, he went with the Texas & Pacific as assistant engineer of valuation at Dallas. During the first World War he served overseas as a second and first lieutenant with the 22nd Engineers on light railway construction, maintenance and operation, returning to the T. & P. in October 1919, as assistant roadmaster at Ranger, Tex. In March, 1920, he was appointed assistant engineer at Ft. Worth, Tex., and in July, 1921, he was advanced to general roadmaster, with headquarters at Marshall, Tex., later being transferred successively to Alexandria, La., and Ft. Worth. His promotion to engineer maintenance of way was effective January 1.

MECHANICAL

Robert A. Pyne, whose retirement on January 1 as superintendent of the motive power and car departments of the Western

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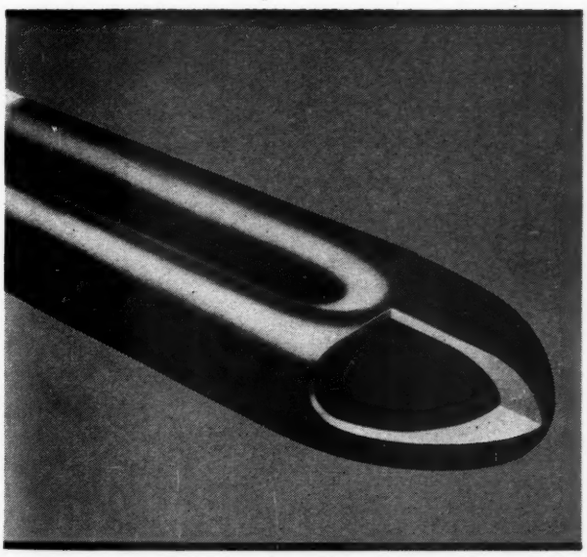
THERE'S NO SHORTCUT TO QUALITY!



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lines of the Canadian Pacific, with headquarters at Winnipeg, Man., was announced in the *Railway Age* of December

Robert A. Pyne

28, was born at Toronto, Ont., on April 10, 1874, and entered railway service as a machinist apprentice on the Canadian Pacific at Winnipeg in July, 1887, later being promoted successively at that point to machinist, main shop gang foreman, roundhouse shop foreman and assistant general foreman. In July, 1902, he was advanced to general foreman at Calgary, Alta., and in September, 1903, to acting master mechanic. In January, 1904, Mr. Pyne was appointed locomotive foreman at Brandon, Man., and in October, 1906, he was promoted to division master mechanic at Moose Jaw, Sask., later being transferred successively to Nelson, B. C., and Calgary, Alta. In January, 1912, he was advanced to superintendent of shops at Winnipeg, and in August, 1916, he was promoted to superintendent of the motive power and car departments, Eastern lines, with headquarters at Montreal, Que. Mr. Pyne was transferred to the Western lines, with headquarters at Winnipeg, in January, 1921, where he was located until his retirement.

Vaughn Rue Hawthorne, secretary of the Mechanical division of the Association of American Railroads, with headquarters at Chicago, has been elected executive vice-chairman of that division, a newly created position, with the same headquarters, and **Arthur Clark Browning,** assistant to the secretary of the Mechanical division, has been promoted to Secretary, succeeding Mr. Hawthorne.

Mr. Hawthorne was born at Oleona, Pa., on November 27, 1886, and attended Elmira Free Academy, Elmira, N. Y. He entered railway service in June, 1904, as assistant storekeeper on the Pennsylvania at Elmira and a year later he became a laborer in the Elmira shop of that road, later being promoted to car repairer at Baltimore, Md. In 1907 he was appointed M. C. B. clerk at Baltimore, later being transferred to Williamsport, Pa., and Altoona, Pa. Mr. Hawthorne was promoted to M. C. B. inspector in 1915, and in 1917 he went with the American Railway Association (now the A. A. R.) as an inspector. In 1918 he was appointed acting secretary of the Master Car Builders Association and the American Railway Master Mechanics Association. The following year he was appointed secretary of the Mechanical division of the A. A. R., the position he held until his recent appointment.

Mr. Browning was born at Belpre, Ohio, on July 15, 1884, and entered railroad service in January, 1906, as a trucker in the Chicago freight house of the Chicago, Rock Island & Pacific. Three months later he was advanced to yard clerk and in May of the same year entered the Chicago local freight office where he served as clerk, stenographer, assistant accountant and chief tonnage clerk. He was transferred to the general office in August, 1917, as inspector of weights and later was employed as fuel clerk and general clerk in the office of the auditor of disbursements. Mr. Browning entered the service of the former Master Car Builders' and American Railway Master Mechanics' Association as a committee reporter on February 16, 1919, and was made assistant to the secretary of these associations in July, 1919 shortly before their amalgamation as the

Vaughn Rue Hawthorne

Mechanical division of the American Railway Association. He has served continuously in that capacity except for three years as a traveling mechanical inspector.

Frank C. Watrous has been appointed trainmaster and road foreman of engines of the Pittsburg & Shawmut, with headquarters at Kittanning, Pa., succeeding **C. M. Newkirk,** resigned.

William Henry Gimson, general foreman on the St. Louis-San Francisco at Springfield, Mo., has been promoted to master mechanic of the Southwestern and Western divisions, with headquarters at West Tulsa, Okla., succeeding **Robert Blaine Spencer,** whose death at Claremore, Okla., on December 24 is announced elsewhere in these columns.

OBITUARY

Francis W. Dougan, trainmaster on the Illinois Central at Freeport, Ill., died on December 12 at the Illinois Central hospital in Chicago.

Charles Wilson Bunn, who retired early in 1938 as vice-president and special counsel of the Northern Pacific, with headquarters at St. Paul, Minn., died in that city on January 2. Mr. Bunn was born in Galesville, Wis., on May 21, 1855, and attended the University of Wisconsin. He entered railway service in June, 1896, as general counsel of the Northern Pacific, later being elected vice-president and special counsel.

Mariano Cabrera, a former general manager and executive vice-president of the National Railways of Mexico at two different times, died on December 27, 1940.

Robert Blaine Spencer, master mechanic of the Southwestern and Western divisions of the St. Louis-San Francisco, with headquarters at West Tulsa, Okla., died on December 24 at Claremore, Okla.

Arthur E. Lodge, auditor of investment and joint facility accounts of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Chicago, died of a heart attack at his home in that city on January 12.

David S. Alonzo, relief superintendent for the National Railways of Mexico, and more recently, under the Workers Administration (now abolished), a member of the board of directors and general superintendent of transportation died on January 3 after a prolonged illness.

J. M. Ballingall, assistant to the general freight agent of the Spokane, Portland & Seattle, with headquarters at Portland, Ore., died at Bend, Ore., of a heart attack on December 27. Mr. Ballingall was born in Scotland and entered railway service with the Highland Railway (now the London, Midland & Scottish). He entered the service of the S. P. & S. in the accounting department at Portland in 1911. He was later promoted through various positions to chief of the bureau of traffic accounts, general agent at Astoria, Ore., and assistant to the general freight agent at Portland.

Frank Rhea, former chief signal inspector on the Pennsylvania, and later commercial engineer in the railway engineering department of the General Electric Company, died on December 2 at Tucson, Ariz., at the age of 73. Mr. Rhea served from 1921 to 1925 as industrial trade commissioner for the Bureau of Foreign and Domestic Commerce in China, and from December 24, 1924, until the latter part of 1925, he also served as Acting American Commercial Attache for Japan, with headquarters at Tokio. At one time, Mr. Rhea was recognized as one of the best known railway signal engineers in this country.

William G. Story, freight traffic manager of the Delaware & Hudson, with headquarters at Albany, N. Y., died on January 15 at the age of 61. Mr. Story was born on September 26, 1879, at Philadelphia, Pa., and entered railroad service with the Lehigh Valley in 1896 as stenographer at Philadelphia, Pa. He served as stenographer, rate clerk and chief rate clerk for the Pennsylvania until June, 1914, when he became chief clerk to freight traffic manager of the Delaware & Hudson. Mr. Story was appointed general freight agent of the Delaware & Hudson in December, 1917, holding this position until February, 1936, when he was appointed freight traffic manager.